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ACUTE LETHALITY DATA
FOR ONTARIO'S IRON AND STEEL
MANUFACTURING SECTOR EFFLUENTS
COVERING THE PERIOD FROM
NOVEMBER 1989 TO OCTOBER 1990

OCTOBER 1991



Environment
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NOVEMBER 1989 TO OCTOBER 1990

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SUMMARY

Under the MISA program, the Iron and Steel Processing Industries were required to monitor their liquid effluents (both final and cooling waters) for acute lethality to trout and to *Daphnia magna* by conducting laboratory toxicity tests. This requirement was based on provisions of the Ontario Environmental Protection Act which allow the Ministry to write regulations requesting persons responsible for sources of contamination to monitor, record and report to the Ministry. Specific details of the toxicity testing requirements may be found in the General Effluent Monitoring Regulation (Ontario Regulation 695/88) and the Effluent Monitoring Regulation for the Iron and Steel Processing Sector (Ontario Regulation 321/89). Data collected under the MISA monitoring regulation will be used, in part, for the development of compliance limits for effluent toxicity. The following data is the company submitted toxicity test results from this monitoring, as well as the results from audit samples that were tested by the Aquatic Toxicity Unit in the Ministry's laboratory in Rexdale. In addition, Atlas Specialty Steel and Dofasco Steel voluntarily submitted toxicity test results for intake water samples, and these have been included in the report. Frequency of sampling was monthly for process effluents and quarterly for cooling waters, with a few exceptions. If tests over three consecutive months showed $\leq 20\%$ mortality to trout, then subsequent trout testing was completed using a single concentration test procedure. In this procedure, fish were exposed to full strength (undiluted) effluent and a control. Companies reverted back to full series test procedures if the effluent sample caused $\geq 20\%$ mortality in any single concentration test.

Acute lethality toxicity tests are a rapid, simple method for measuring the potential effects of complex effluents on aquatic organisms. The monitoring regulations required the companies to conduct all acute lethality tests in accordance with Ministry protocols (Protocol to Determine the Acute Lethality of Liquid Effluents to Fish (Craig *et. al.*, 1983) and *Daphnia magna* Acute Lethality Toxicity Test Protocol (Poirier *et. al.*, 1988)). In these tests, aquatic organisms are exposed to undiluted effluent and several effluent dilutions for a fixed period of time. The Ministry protocols require a 96 hour exposure period for trout and a 48 hour exposure for *Daphnia*. An LC50, the concentration of effluent estimated to cause 50% of the test animals to die, is calculated, where possible, for each sample. This statistic and its associated confidence limits are used as a measure of the toxicity of the effluent. The timing of toxicity sampling was arranged to coincide with chemical characterization of the effluent to assist in the determination of the causes of toxicity.

This report covers the full twelve months of sampling for this sector. Over the twelve months of monitoring, the seven companies in the Iron and Steel industry submitted toxicity results for 248 samples collected from 33 sampling points. An additional 29 audit tests were conducted by the Ministry's laboratory. With one exception, the reporting of toxicity data by this sector went smoothly, and the quality of the data was acceptable. On April 11, 1991 an inspection was conducted on the facility conducting toxicity testing for one of the specialty steel mills. This inspection was conducted in response to several

problems encountered with data received from this company. The inspection revealed several problems at the consulting laboratory, therefore the 12 results submitted for their client have been removed from the database until this situation has been resolved. This data will not be used in any summaries or discussions. In August 1990 there was a labour dispute between the steel workers and Algoma Steel Corporation and Stelco Steel (Hilton and Lake Erie Works), and the operations were shut down for approximately 80 days. Subsequently sampling was disrupted, and no test results were submitted for the months of August, September and October for Algoma Steel, and for the months of September and October for Stelco Steel Hilton Works. Stelco Steel Lake Erie Works was under a Certificate of Approval which required the company to conduct monthly toxicity testing, therefore toxicity sampling was not disrupted.

General

The Iron and steel sector in Ontario can be divided into two groups based on raw materials used, and subsequent differences in production techniques. These two groups are the *integrated mills*, and the *specialty steel/mini mills*. The integrated mills use iron ore, coal and limestone/dolomite, as feed stock and process this material into various finished, or partially refined, iron and steel products. These mills have cokemaking, ironmaking, steelmaking, cold forming, hot forming and finishing operations. The Algoma Steel Corporation, Dofasco Steel, and Stelco Steel Hilton and Lake Erie Works are integrated Steel mills. The specialty steel/mini mills use processed iron products or scrap steel as feed stocks for their steelmaking, hot forming and finishing operations to make specialty steels for the market. Atlas Specialty Steels, IVACO Rolling Mills and Lake Ontario Steel Company Limited (LASCO) are specialty steel or mini-mills. A more thorough overview of Ontario's iron and steel sector can be found in the development document for the effluent monitoring regulation for the Iron and Steel industry (Environment Ontario 1989).

Daphnia magna Toxicity Test Results

Results for 219 *Daphnia magna* toxicity tests conducted on 219 samples of effluent and intake water were submitted by the companies. An additional 29 audit toxicity tests were conducted by the Aquatic Toxicity Unit of Environment Ontario, and these results will be included in the analysis of the data. There is one outstanding request for resubmission of data due to data entry errors. The data base contains 217 test results for the integrated mills and 31 test results for the specialty steel/mini mills.

The overall distribution of toxicity of these effluents to *Daphnia magna* is illustrated in Figure 1. This figure shows the differences in toxicity of mill outfalls to trout and *Daphnia*. For both integrated and specialty steel/mini mills, there were more samples which were acutely lethal to *Daphnia* than to trout. This difference was greatest for the specialty steel/mini mills where no samples were acutely lethal to trout, but 19.4% of the samples were lethal to *Daphnia*. Two other trends can be identified from Figure 1. The first trend

is that some of the samples from the integrated mills which induce an unusual toxic response with *Daphnia*. Mortalities in these tests were high in the intermediate effluent concentrations (5%, 15% or 30% concentrations) and lower above or below these concentrations. The results for these tests are entered as LC50 > 100%, but they should be examined carefully because they indicate that, to a point, the effluent samples became more toxic as they were diluted. This response was not found in the trout tests, nor was it seen in *Daphnia* tests conducted on samples from the specialty mills, but it has been encountered in effluents from other industrial sectors. The second trend is the greater numbers of samples which have LC50s > 100% for *Daphnia*, than there are for trout regardless of process type.

INTEGRATED MILLS

Approximately 58% of samples tested from the integrated mills were not acutely lethal to *Daphnia magna*, and a further 26.7% had 48h LC50s > 100%. 10% of the samples tested from the integrated mills were acutely lethal to *Daphnia* (48h LC50 ≤ 100%) and toxicity differed between mills (Figure 1).

Algoma Steel Corporation

Algoma Steel Corp. had 11 lethal samples, five of which came from the Bar and Strip Lagoon (Figure 2). There is probably no single cause of toxicity for the Bar and Strip Lagoon samples. In some cases, ammonia levels were approaching lethal levels and, in other cases, cyanide was at toxic concentrations. For example, the sample from May had toxic pH levels of 9.2, cyanide at 280 ug/l, and ammonia at threshold lethal levels. The effluent sample collected from the 24 Inch Coke Quench Overflow in May was toxic to *Daphnia*, and had ammonia levels 2 times the 48h LC50 values for this organism. The compound(s) responsible for toxicity in the #2 Tube Mill or Coke Oven Condenser samples could not be found.

Dafasco Steel

There was one lethal sample from the East Boat Slip Sewer at Dofasco Steel. There were insufficient chemistry analyses conducted to suggest the cause of toxicity in this case. There were four samples from Dofasco Steel (Ottawa Street Sewer, West Bay Front Sewer, and Boiler House Sewer #2) which induced an unusual toxic response in the *Daphnia* test. Studies in the Ministry laboratory indicate that ammonia, cyanide, nickel and some volatile solvents can cause this type of toxic response, but there may be other causes as well. All of the tests on these Dofasco samples resulted in less than 50% mortality at the intermediate concentrations. A Blast furnace recycle system was installed and started up April 16, 1990. This system has resulted in an reduction of effluent volume at the West Bay Front Sewer by 66 m³/min.

Stelco Steel Hilton Works

There were toxic samples collected from the #1 60 Inch Sewer (Figure 3), #2 Rod Mill and the 20 Inch Mill (Figure 4) of Stelco Steel Hilton Works prior to April 1990. On April

14, 1990 the 20 inch mill was officially closed. On May 17, 1990 the process effluents from the acid regeneration plant and the #3 pickle line were redirected from the #1 60 inch sewer to treatment. This resulted in a subsequent removal of acute toxicity from the #1 60 inch sewer in all samples tested after April 1990. The December sample from the #1 60 inch sewer had pH of 3.7 and a copper level of 63 $\mu\text{g/l}$, both of which are lethal to *Daphnia*. Similarly, the February sample had a pH of 2.93 and it was toxic to *Daphnia*. The toxic sample collected in March had a neutral pH (6.67), but there were several metals (chromium, copper, aluminum) which combined could account for some of the toxicity. The December sample from the 20 Inch Mill had high levels of oil and grease, and 70 $\mu\text{g/l}$ of copper, both of which could have contributed to its toxicity to *Daphnia*. It was unclear what caused the toxicity for the December sample from the #2 Rod Mill. Stelco Steel Hilton Works was the only other steel mill which had outfalls which induced the unusual toxic responses seen at the Dofasco mill. None of the seven samples (from outfalls 400, 601, 602, 1100, 1900 and 2000) induced mortalities greater than 50% in any of the test concentrations.

Stelco Steel Lake Erie Works

Stelco Steel Lake Erie Works in Nanticoke had two toxic samples from the #4 Pond Discharge. Chemical characterization of these samples did not indicate any specific chemical which might be causing toxicity. It is possible that toxicity might be related to zebra mussel control (eg. chlorination) measures being conducted at some of the facilities located on Lake Erie.

SPECIALTY STEEL/MINI MILLS

Approximately 19% of samples from the specialty steel/mini mills were acutely lethal (48h $\text{LC}_{50} \leq 100\%$) to *Daphnia magna*. 48.4% were non-lethal and a further 32.3% had $\text{LC}_{50}\text{s} > 100\%$. There were no unusual toxicity responses in samples from the specialty mills.

Atlas Specialty Steel

Five of the six toxic samples from this group were collected from the 42 Inch Sewer at Atlas Specialty Steel in Welland. Various concentrations/mixtures of metals including copper, chromium, nickel, and aluminum were at or near toxic levels, and could be responsible for the toxicity. There were also occurrences of high concentrations of oil and grease.

IVACO Rolling Mill

One sample collected in January from East Discharge (#200) at IVACO Rolling Mills was acutely lethal to *Daphnia*. This sample had a high pH (9.4), moderately high concentrations of zinc (810 $\mu\text{g/l}$) and copper (20 $\mu\text{g/l}$), oil and grease (5 mg/l), and a mixture of low concentrations of volatile organic compounds such as di, tri, and tetrachloroethylenes, benzene, toluene and xylene. All these compounds could have contributed to the toxicity of this sample.

Rainbow Trout Toxicity Test Results

Results for 220 rainbow trout toxicity tests conducted on 220 samples of effluent and intake water were submitted by the seven companies in this sector. An additional 29 audit toxicity tests were conducted by the Aquatic Toxicity Unit of Environment Ontario, and have been included in this report. There are four outstanding requests for resubmission of data due to data entry errors. The database includes 218 test results for integrated mills and 31 test results for the specialty mills. The overall distribution of toxicity of these effluents to rainbow trout is illustrated in Figure 1. Fewer samples were acutely lethal to trout than to *Daphnia*. There were also fewer trout tests with partial mortalities than *Daphnia* tests. Samples which were toxic to trout were not necessarily toxic to *Daphnia*, and vice versa, but 28% of the lethal samples were toxic to both species. The results from audit tests were generally consistent with the results submitted by the companies.

INTEGRATED MILLS

82% of samples tested from integrated mills were not acutely lethal to trout and a further 10% had 96h LC50s > 100%. 8% of the samples were acutely lethal (96h LC50 ≤ 100%) to trout.

Algoma Steel Corporation

Algoma Steel had 10 lethal samples, 9 of which were from the Bar and Strip Lagoon. Much of the toxicity from this site was probably due to cyanide (100 - 650 ug/l), ammonia (800 - 17000 ug/l), and metals (Zn, Cu, Cr). The remaining toxic sample was from the 24 Inch Coke Quench. This sample had very high levels of ammonia, and cyanide = 100 ug/l.

Dofasco Steel

There were five samples from Dofasco which were toxic to trout, and four of these were from the West Bay Front Sewer. The remaining lethal result was from a sample of intake water. It is presently unclear as to the cause(s) of toxicity for these samples.

Stelco Steel Hilton Works

There were three samples of effluent from Stelco Steel Hilton Works which were toxic to trout, and all were from the #1 60 Inch Sewer (#602). A combination of low pH (< 3.8) and high metals levels, particularly copper and chromium, were the likely causes of toxicity in these three samples.

Stelco Steel Lake Erie Works

There were no acutely lethal samples from Stelco Steel Lake Erie Works.

SPECIALTY STEEL/MINI MILLS

There were no acutely lethal samples from any of the specialty steel/mini mills.

Conclusions

In general, *Daphnia magna* was more sensitive than trout to iron and steel mill effluents, although there were a few cases where samples caused mortality in trout, but not toxic to *Daphnia*. Effluents from integrated mills were more toxic to trout than were samples from specialty/ mini mills, and this toxicity may be due to high concentrations of cyanide, ammonia, some metals (particularly copper), and occasionally to adverse pH conditions (> 9 or < 4). Toxicity of these effluents to *Daphnia* may also be due to these causes as well as high concentrations of oil and grease. 5% of integrated mill effluents caused an unusual toxic response, and these may have been due to levels of ammonia, cyanide, or nickel in the samples, and their reaction with our laboratory dilution water.

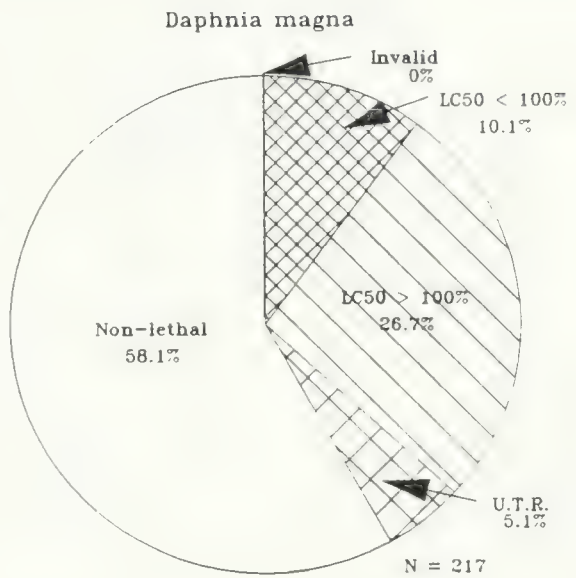
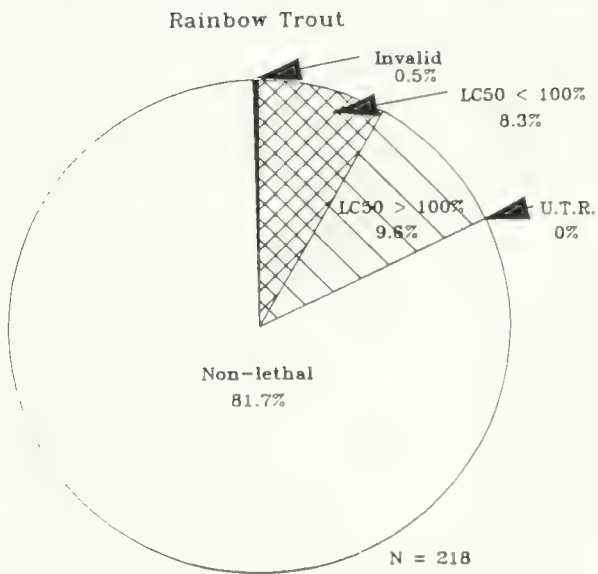
None of the effluent samples from the specialty/ mini mills were acutely lethal to trout. 19.4% of the samples were lethal to *Daphnia*, and this toxicity may be due to mixtures of metals (Cu, Zn, Cr, Ni, Al), and some occurrences of high concentrations of oil and grease and adverse pH.

Comments included under each Toxicity Test Report were submitted by the company and their representatives and they should not be expected to be consistent throughout the reports.

Figure 1: Status of acute lethality data for the Iron and Steel Sector. Integrated mills are Algoma Steel Corporation, Dofasco Steel, Stelco Steel Hilton Works and Stelco Steel Lake Erie Works. Specialty steel/mini mills include Atlas Specialty Steel, Lake Ontario Steel Company and IVACO.

U.T.R. (unusual toxic response) - when the greatest number of mortalities occur in a middle effluent concentration and not the highest concentration tested.

Integrated Mills



Specialty Steel / Mini Mills

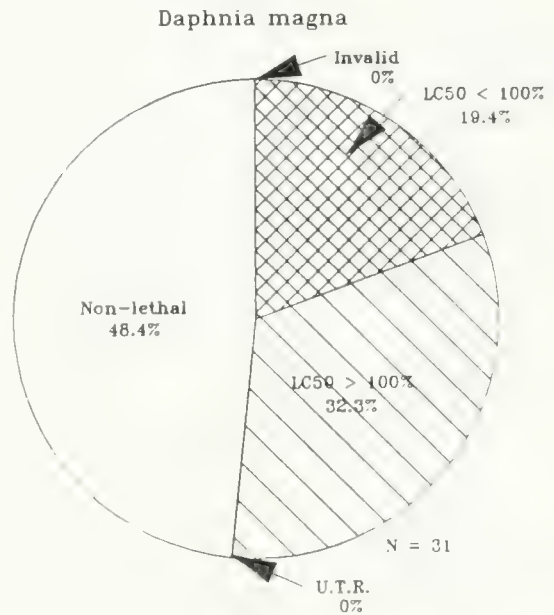
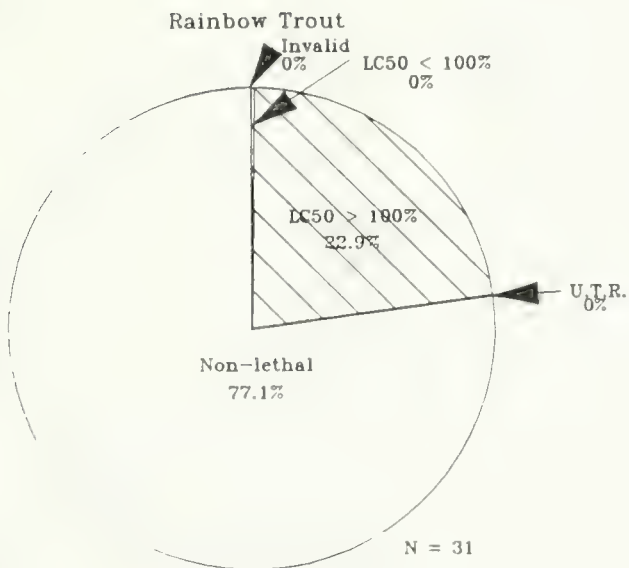


Figure 2: Toxicity of effluent samples from the Bar and Strip Lagoon (#100) at Algoma Steel Corporation, Sault Ste. Marie.

□ - Rainbow Trout

Δ - *Daphnia magna*

Solid symbols are results from Ministry audit tests.

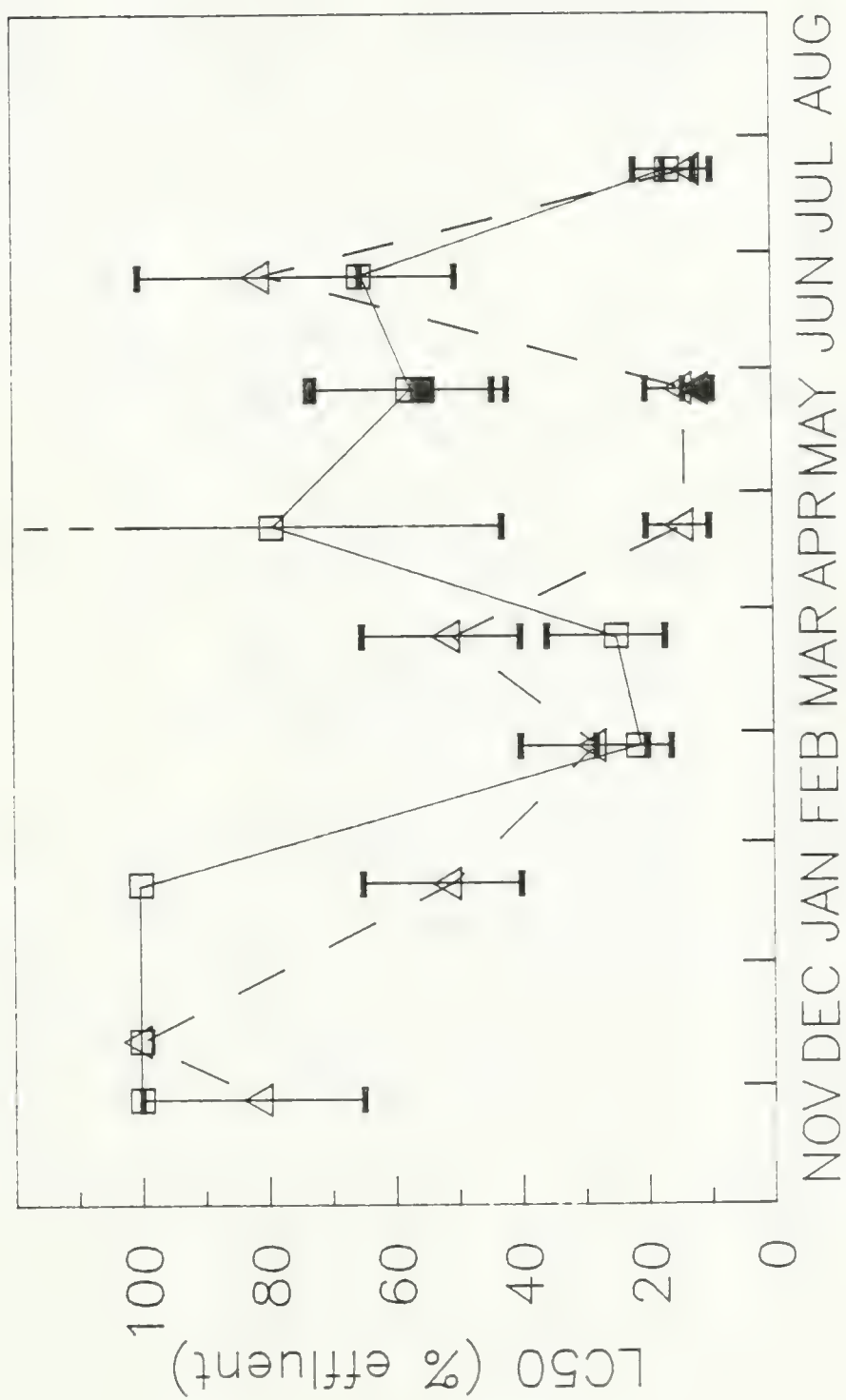
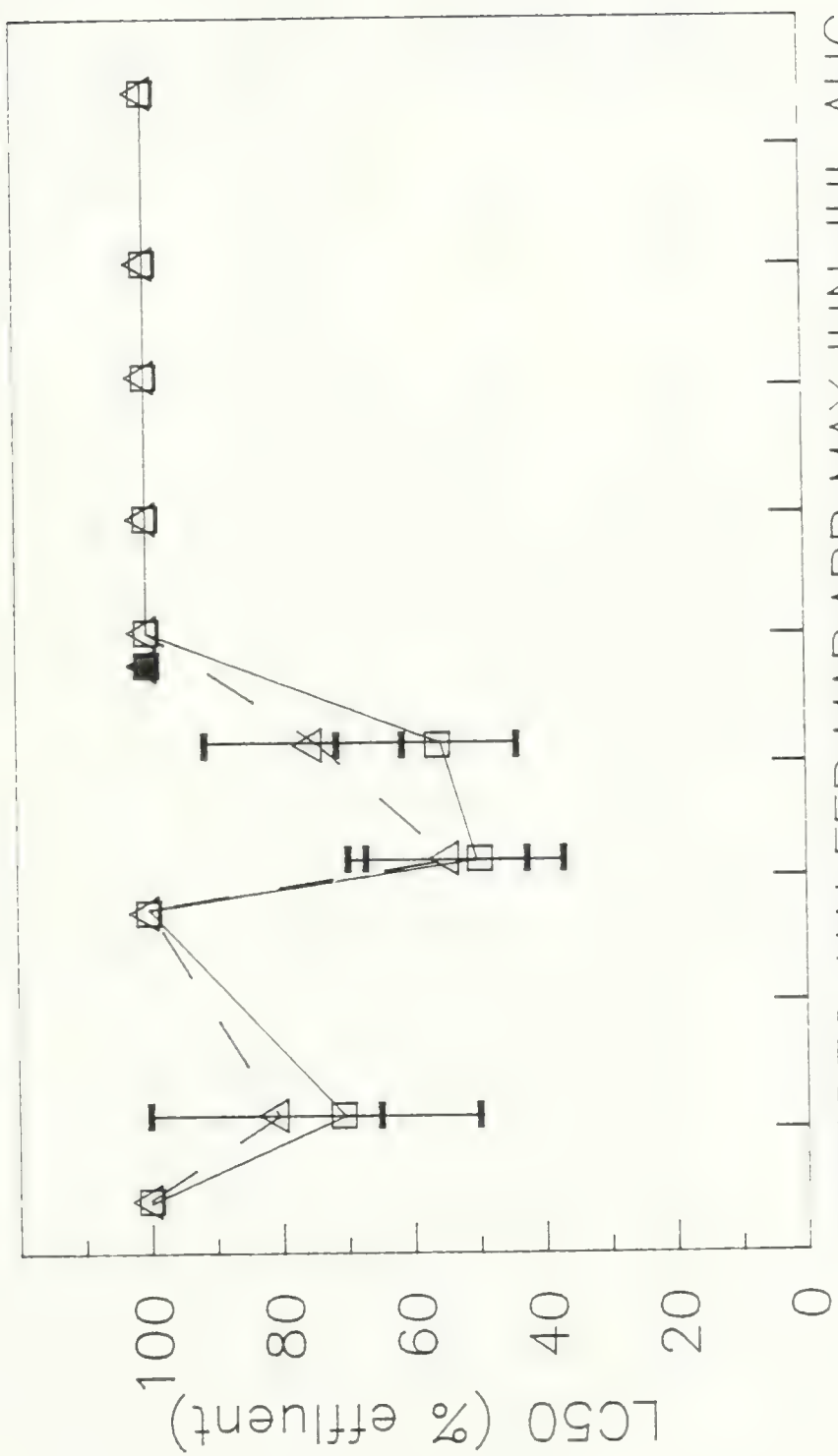


Figure 3: Toxicity of effluent samples from the #1 60 Inch Sewer (#602) at Stelco Steel Hilton Works, Hamilton.

□ - Rainbow Trout

Δ - *Daphnia magna*

Solid symbols are results from Ministry audit tests.



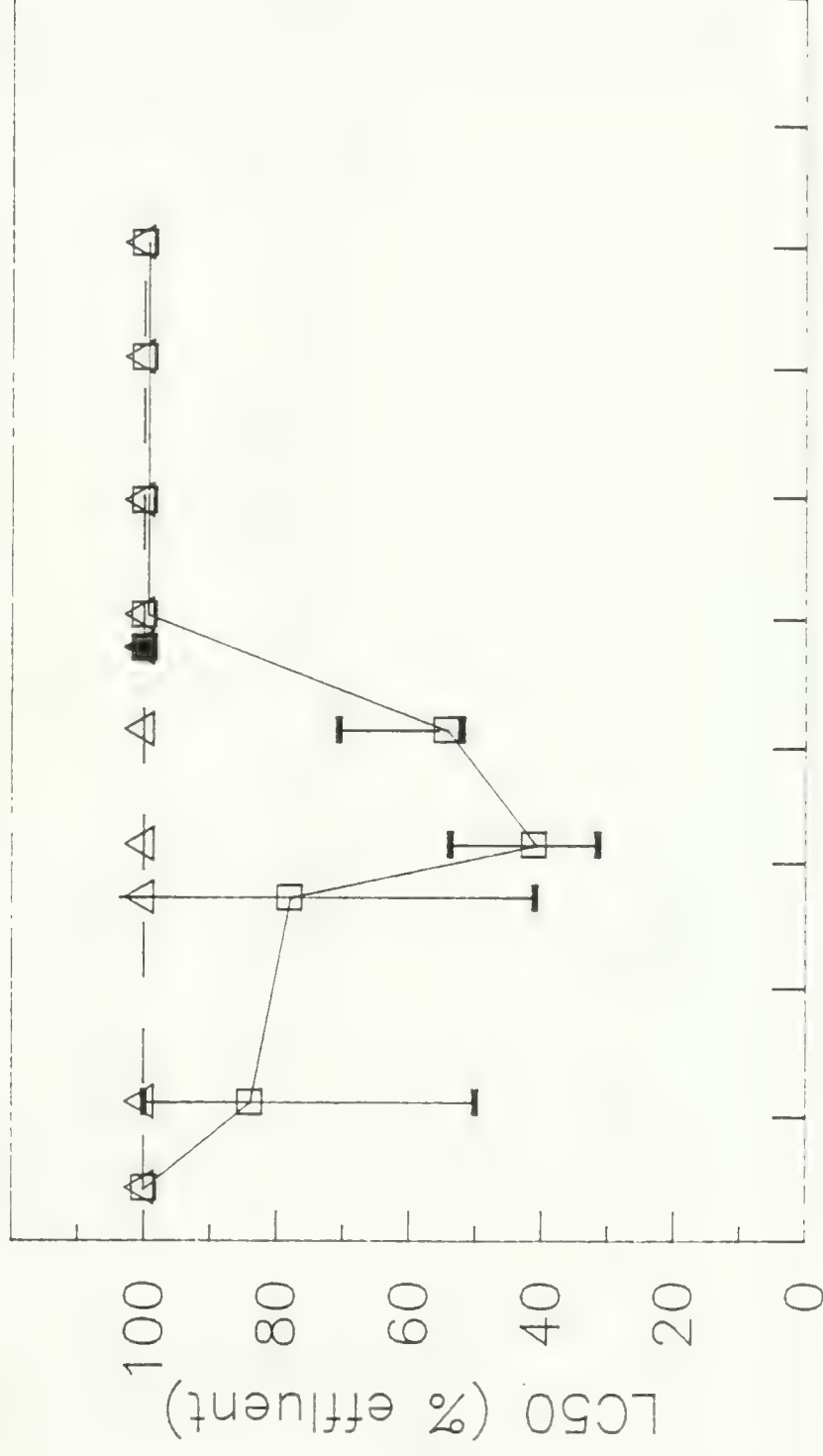
NOV DEC JAN FEB MAR APR MAY JUN JUL AUG
Date Sampled (1989-90)

Figure 4: Toxicity of effluent samples from the #2 Rod Mill (#1100) at Stelco Steel Hilton Works, Hamilton.

□ - Rainbow Trout

Δ - *Daphnia magna*

Solid symbols are results from Ministry audit tests.



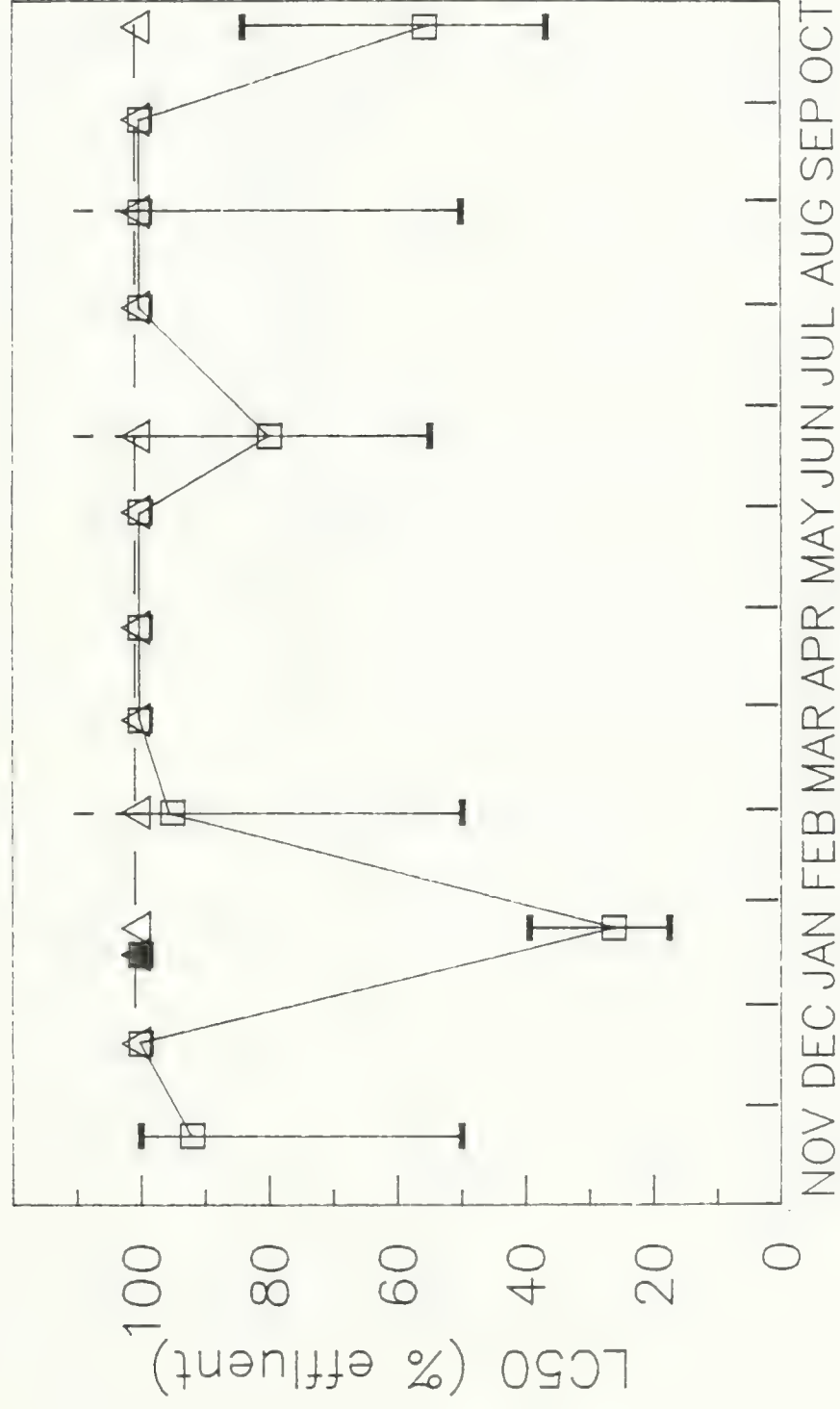
NOV DEC JAN FEB MAR APR MAY JUN JUL AUG
Date Sampled (1989-90)

Figure 5: Toxicity of effluent samples from the 42 Inch Sewer (#100) at Atlas Specialty Steel, Welland.

□ - Rainbow Trout

Δ - *Daphnia magna*

Solid symbols are results from Ministry audit tests.



Date Sampled (1989-90)

COMPANY: Algoma Steel, Sault Ste. Marie
(40006)
SECTOR: Iron and Steel
REGION: Northeast

SUMMARY

The data for 52 acute lethality trout bioassays conducted on effluent samples collected between November 1989 and July 1990 were submitted by Algoma Steel Corporation. The company was not in operation during part of July, August and September, therefore no tests were conducted for these months.

Samples from the 60" Sewer, 30" Sewer, Tube Mill, Cold Mill 24 inch, Terminal Settling Basin, Boiler House, #2 Steel Making Cooling Water, Cold Mill 20 inch, Cold Oven Condenser, and #2 Tube Mill were either not acutely lethal to trout or had 96 h LC50s >100 %. All the Ministry audit samples collected from the above sites were determined to have been not acutely lethal to trout.

The samples collected from the Bar and Strip Lagoon were found to have been consistently lethal to test fish. Eight of nine samples were determined acutely lethal to trout, producing 96 h LC50s in the range from 11.5 % to 80.6 %.

The sample collected in December 1989 was nonlethal. A Ministry audit sample, collected in May, was also determined to have been acutely lethal, producing a 96 h LC50 of 11.5 %. Another Ministry audit sample, collected from the 24 inch Coke Oven Quench discharge proved lethal. The May 1990 sample, when tested, produced a 96 h LC50 of 59.3%.

Bar & Strip Lagoon

03890311 sampled: 11/28/89 LC50: 80.6 %
95% fid. limits: 65.0 - 100.0 %
comments:

03890362 sampled: 12/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900073 sampled: 01/22/90 LC50: 51.0 %
95% fid. limits: 40.0 - 65.0 %
comments:

03900156 sampled: 02/26/90 LC50: 28.3 %
95% fid. limits: 20.0 - 40.0 %
comments:

Algoma Steel (continued)

03900246	sampled: 03/26/90	LC50:	51.0 %
	95% fid. limits: 40.0 - 65.0 %		
	comments:		
03900328	sampled: 04/23/90	LC50:	14.1 %
	95% fid. limits: 10.0 - 20.0 %		
	comments:		
03900423	sampled: 05/28/90	LC50:	14.1 %
	95% fid. limits: 10.0 - 20.0 %		
	comments: Lethal		
01900099	sampled: 05/28/90	LC50:	11.5 %
	95% fid. limits: 9.4 - 14.0 %		
	comments: MISA Audit		
03900533	sampled: 06/26/90	LC50:	80.6 %
	95% fid. limits: 65.0 - 100.0 %		
	comments:		
03900626	sampled: 07/23/90	LC50:	12.6 %
	95% fid. limits: 9.4 - 16.9 % slope:		5.5
	comments:		

60 inch Sewer

03900152	sampled: 02/26/90	non-lethal
	95% fid. limits: 0.0 - 0.0 %	
	comments: Non-lethal	
01900089	sampled: 05/23/90	non-lethal
	95% fid. limits: 0.0 - 0.0 %	
	comments: MISA Audit; Non-lethal	
03900534	sampled: 06/25/90	non-lethal
	95% fid. limits: 0.0 - 0.0 %	
	comments: Non lethal	

30 inch Sewer

03900151	sampled: 02/26/90	non-lethal
	95% fid. limits: 0.0 - 0.0 %	
	comments: Non-lethal	
03900535	sampled: 06/25/90	non-lethal
	95% fid. limits: 0.0 - 0.0 %	
	comments: Non lethal	

Algoma Steel (continued)

Tube Mill

03890312 sampled: 11/27/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03890364 sampled: 12/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900070 sampled: 01/22/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900149 sampled: 02/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test--Non-lethal

03900247 sampled: 03/26/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; 5% mort.@ 100%

03900329 sampled: 04/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

01900092 sampled: 05/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit; Non-lethal

03900424 sampled: 05/28/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single concentration test; Non lethal

03900536 sampled: 06/25/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single concentration test; Non lethal

03900627 sampled: 07/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

Cold Mill 24 inch

03900148 sampled: 02/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

01900097 sampled: 05/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit; Non-lethal

Algoma Steel (continued)

03900537 sampled: 06/25/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

Cold Mill Storm Sewer

Terminal Settling Basin

03890313 sampled: 11/27/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03890365 sampled: 12/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900071 sampled: 01/22/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900153 sampled: 02/26/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test--Lethal

03900248 sampled: 03/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900330 sampled: 04/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

03900425 sampled: 05/28/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single concentration test; Non lethal

01900098 sampled: 05/28/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900538 sampled: 06/25/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900628 sampled: 07/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

Algoma Steel (continued)

Boiler House

03900426 sampled: 05/28/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900539 sampled: 06/25/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

Intake Water

#2 Steel Making CW

03900150 sampled: 02/26/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

01900094 sampled: 05/23/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900540 sampled: 06/25/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

#1 Thickener

#2 Thickener

By-products Area

Cold Mill 20 inch

03900154 sampled: 02/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

01900093 sampled: 05/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit; Non-lethal

03900541 sampled: 06/25/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

Algoma Steel (continued)

Coke Oven Condenser

03900155 sampled: 02/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

01900090 sampled: 05/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit; Non-lethal

03900542 sampled: 06/25/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

Rain Gauge

#2 Tube Mill

03890314 sampled: 11/27/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100%

03890363 sampled: 12/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900072 sampled: 01/22/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900147 sampled: 02/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test--Non-lethal

03900249 sampled: 03/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900331 sampled: 04/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

03900368 sampled: 05/07/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

03900427 sampled: 05/28/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single concentration test; non lethal

Algoma Steel (continued)

01900100 sampled: 05/28/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit; Non-lethal

03900543 sampled: 06/25/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single concentration test; Non lethal

03900625 sampled: 07/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

#1 Thickener EO

24 inch Coke Quench

01900096 sampled: 05/23/90 LC50: 59.3 %
95% fid. limits: 50.9 - 71.5 %
comments: MISA Audit

MISA Trout

TOXICITY TEST REPORT Sample: 03890311

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Bar & Strip Lagoon, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 11/28/89
Received : 11/29/89 at: 1330
Tested : 11/30/89
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	10	10	10	10	100
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : 80.6 %
95% fid. limits : 65.0 - 100.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : Geometric Mean

TOXICITY TEST PARAMETERS

Sample Number: 03890311

TEST
CONC.
%

E L A P S E D T I M E

00:00 24:00 48:00 72:00 96:00

100	pH	7.8	7.9		
	O2 ppm	10.4	9.8		
	Cond.	349	358		
	Temp(C)	14.0	15.0		
65	pH	7.8		8.1	
	O2 ppm	10.2		9.5	
	Cond.	410		447	
	Temp(C)	14.0	15.0	14.5	14.0
40	pH	7.8		8.2	
	O2 ppm	10.0		9.3	
	Cond.	505		497	
	Temp(C)	14.0	15.0	14.5	14.0
20	pH	7.8		8.3	
	O2 ppm	9.5		9.4	
	Cond.	577		536	
	Temp(C)	14.0	15.0	14.5	14.0
10	pH	7.8		8.5	
	O2 ppm	9.3		9.7	
	Cond.	552		552	
	Temp(C)	14.0	15.0	14.5	14.0
Control	pH	7.8		8.3	
	O2 ppm	9.1		9.2	
	Cond.	576		551	
	Temp(C)	14.0	15.0	14.5	14.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03890362

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Bar & Strip Lagoon, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : R. King
Date Collected : 12/13/89
Received : 12/15/89
Tested : 12/18/89 at: 800

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
65	0	0	0	0	0
40	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890362

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH 7.8 O2 ppm 10.3 Cond. 306 Temp(C) 15.0			8.1 10.0 308 14.0
65	pH 7.8 O2 ppm 9.9 Cond. 392 Temp(C) 15.0			8.3 9.9 400 14.0
40	pH 7.8 O2 ppm 9.3 Cond. 457 Temp(C) 15.0			8.4 9.3 457 14.0
20	pH 7.8 O2 ppm 9.0 Cond. 508 Temp(C) 15.0			8.5 10.1 505 14.0
10	pH 7.8 O2 ppm 8.6 Cond. 533 Temp(C) 15.0			8.5 10.2 529 14.0
5	pH 7.8 O2 ppm 8.6 Cond. 545 Temp(C) 15.0			8.5 10.0 541 14.0
Control	pH 7.8 O2 ppm 8.3 Cond. 556 Temp(C) 15.0			8.5 10.1 556 14.0

MISA Trout

SLOPE of Mortality Curve : Geometric Mean
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900073

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Bar & Strip Lagoon, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 01/22/90
Received : 01/25/90
Tested : 01/26/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00	%	
100	0	10	10	10	10	10	100	
65	0	10	10	10	10	10	100	
40	0	0	0	0	0	0	0	
20	0	0	0	0	0	0	0	
10	0	0	0	0	0	0	0	
5	0	0	0	0	0	0	0	
Control	0	0	0	0	0	0	0	

96 Hour LC50 : 51.0 %

95% fid. limits : 40.0 - 65.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03900073

TEST E L A P S E D T I M E
CONC. % 00:00 04:00 24:00 48:00 72:00 96:00

100	pH 8.1	8.1	8.1	8.1	8.1	8.1
	O2 ppm 10.2	10.2	10.2	10.2	10.2	10.2
	Cond. 268	268	268	268	268	268
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0
65	pH 8.0	8.0	8.0	8.0	8.0	8.0
	O2 ppm 9.8	9.8	9.8	9.8	9.8	9.8
	Cond. 368	368	368	368	368	368
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0
40	pH 8.0	8.0	8.0	8.0	8.0	8.0
	O2 ppm 9.6	9.6	9.6	9.6	9.6	9.6
	Cond. 431	431	431	431	431	431
	Temp(C) 15.0	15.0	15.0	14.5	14.5	15.0
20	pH 7.9	7.9	7.9	7.9	7.9	8.4
	O2 ppm 9.5	9.5	9.5	9.5	9.5	9.9
	Cond. 490	490	490	490	490	488
	Temp(C) 15.0	15.0	15.0	14.5	14.5	15.0
10	pH 7.9	7.9	7.9	7.9	7.9	8.3
	O2 ppm 9.4	9.4	9.4	9.4	9.4	9.8
	Cond. 506	506	506	506	506	510
	Temp(C) 15.0	15.0	15.0	14.5	14.5	15.0
5	pH 8.0	8.0	8.0	8.0	8.0	8.4
	O2 ppm 9.3	9.3	9.3	9.3	9.3	10.0
	Cond. 519	519	519	519	519	521
	Temp(C) 15.0	15.0	15.0	14.5	14.5	15.0
Control	pH 7.9	7.9	7.9	7.9	7.9	8.5
	O2 ppm 9.1	9.1	9.1	9.1	9.1	9.9
	Cond. 540	540	540	540	540	543
	Temp(C) 15.0	15.0	15.0	14.5	14.5	15.0

TOXICITY TEST REPORT Sample: 03900156

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Bar & Strip Lagoon, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 02/26/90
Received : 02/28/90
Tested : 03/01/90 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E										TOTAL MORTALITY	
%	00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00	%			
100	0	10	10	10	10	10	10	10	10	10	100	
65	0	10	10	10	10	10	10	10	10	10	100	
40	0	0	10	10	10	10	10	10	10	10	100	
20	0	0	0	0	0	0	0	0	0	0	0	
10	0	0	0	0	0	0	0	0	0	0	0	
5	0	0	0	0	0	0	0	0	0	0	0	
Control	0	0	0	0	0	0	0	0	0	0	0	

96 Hour LC50 : 28.3 %

95% fid. limits : 20.0 - 40.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03900156

TEST CONC. %	E L A P S E D T I M E									
	00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00		
100	pH	8.7	8.7							
	O2 ppm	9.9	9.9							
	Cond.	280	280							
65	Temp(C)	15.0	15.0							
	pH	8.2	8.2							
	O2 ppm	9.4	9.4							
40	Cond.	381	381							
	Temp(C)	15.0	15.0							
	pH	8.0	8.0							
20	O2 ppm	9.2	9.2							
	Cond.	444	444							
	Temp(C)	15.0	15.0							
10	pH	7.9	7.9							
	O2 ppm	9.0	9.0							
	Cond.	486	486							
5	Temp(C)	15.0	15.0							
	pH	7.9	7.9							
	O2 ppm	8.7	8.7							
Control	Cond.	536	536							
	Temp(C)	15.0	15.0							
	pH	7.9	7.9							
	O2 ppm	8.2	8.2							
	Cond.	544	544							
	Temp(C)	15.0	15.0							

MISA Trout

TOXICITY TEST REPORT Sample: 039000246

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)

Region : Northeast
Industry : Iron and Steel

Control point : Bar & Strip Lagoon, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 03/26/90
Received : 03/28/90
Tested : 03/29/90 at: 910

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E								TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	24:00	48:00	72:00	%	
100	0	8	10	10	10	10	10	100	
65	0	0	8	10	10	10	10	100	
40	0	0	0	0	0	0	0	0	
20	0	0	0	0	0	0	0	0	
10	0	0	0	0	0	0	0	0	
5	0	0	0	0	0	0	0	0	
Control	0	0	0	0	0	0	0	0	

96 Hour LC50 : 51.0 %

95% fid. limits : 40.0 - 65.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : Geometric Mean

TOXICITY TEST PARAMETERS

Sample Number: 039000246

TEST CONC. %	E L A P S E D T I M E							
	00:00	01:00	02:00	04:00	24:00	48:00	72:00	
100	pH 9.2 O2 ppm 11.5 Cond. 293 Temp(C) 14.0	9.2 11.5 293 14.0	9.2 11.5 293 14.0					
65	pH 8.6 O2 ppm 10.8 Cond. 386 Temp(C) 14.0	8.6 10.8 386 14.0	8.6 10.8 386 14.0					
40	pH 8.3 O2 ppm 10.5 Cond. 447 Temp(C) 14.0	8.3 10.5 447 14.0	8.3 10.5 447 14.0	14.0	14.0	14.0	14.0	8.2 9.1 452 14.0
20	pH 8.1 O2 ppm 10.4 Cond. 495 Temp(C) 14.0	8.1 10.4 495 14.0	8.1 10.4 495 14.0	14.0	14.0	14.0	14.0	8.4 9.1 484 14.0
10	pH 8.0 O2 ppm 10.4 Cond. 516 Temp(C) 14.0	8.0 10.4 516 14.0	8.0 10.4 516 14.0	14.0	14.0	14.0	14.0	8.4 9.1 513 14.0
5	pH 8.0 O2 ppm 9.4 Cond. 527 Temp(C) 14.0	8.0 9.4 527 14.0	8.0 9.4 527 14.0	14.0	14.0	14.0	14.0	8.2 8.5 526 14.0
Control	pH 8.0 O2 ppm 8.9 Cond. 538 Temp(C) 14.0	8.0 8.9 538 14.0	8.0 8.9 538 14.0	14.0	14.0	14.0	14.0	8.4 8.6 535 14.0

SLOPE of Mortality Curve : Geometric mean
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900423

CONC. %

Control point : Bar & Strip Lagoon, (100)

9.6 ppm

Cond.

Temp (C)

59 pH

0.2 ppm

Type of Bioassay : STATIC (Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY
0.000	10.0	0.0
0.001	10.0	0.0
0.002	10.0	0.0
0.005	10.0	0.0
0.010	10.0	0.0
0.020	10.0	0.0
0.050	10.0	0.0
0.100	10.0	0.0
0.200	10.0	0.0
0.500	10.0	0.0
1.000	10.0	0.0
2.000	10.0	0.0
5.000	10.0	0.0
10.000	10.0	0.0
20.000	10.0	0.0
50.000	10.0	0.0
100.000	10.0	0.0
200.000	10.0	0.0
500.000	10.0	0.0
1000.000	10.0	0.0
2000.000	10.0	0.0
5000.000	10.0	0.0
10000.000	10.0	0.0
20000.000	10.0	0.0
50000.000	10.0	0.0
100000.000	10.0	0.0
200000.000	10.0	0.0
500000.000	10.0	0.0
1000000.000	10.0	0.0
2000000.000	10.0	0.0
5000000.000	10.0	0.0
10000000.000	10.0	0.0
20000000.000	10.0	0.0
50000000.000	10.0	0.0
100000000.000	10.0	0.0
200000000.000	10.0	0.0
500000000.000	10.0	0.0
1000000000.000	10.0	0.0
2000000000.000	10.0	0.0
5000000000.000	10.0	0.0
10000000000.000	10.0	0.0
20000000000.000	10.0	0.0
50000000000.000	10.0	0.0
100000000000.000	10.0	0.0
200000000000.000	10.0	0.0
500000000000.000	10.0	0.0
1000000000000.000	10.0	0.0
2000000000000.000	10.0	0.0
5000000000000.000	10.0	0.0
10000000000000.000	10.0	0.0
20000000000000.000	10.0	0.0
50000000000000.000	10.0	0.0
100000000000000.000	10.0	0.0
200000000000000.000	10.0	0.0
500000000000000.000	10.0	0.0
1000000000000000.000	10.0	0.0
2000000000000000.000	10.0	0.0
5000000000000000.000	10.0	0.0
10000000000000000.000	10.0	0.0
20000000000000000.000	10.0	0.0
50000000000000000.000	10.0	0.0
100000000000000000.000	10.0	0.0
200000000000000000.000	10.0	0.0
500000000000000000.000	10.0	0.0
1000000000000000000.000	10.0	0.0
2000000000000000000.000	10.0	0.0
5000000000000000000.000	10.0	0.0
10000000000000000000.000	10.0	0.0
20000000000000000000.000	10.0	0.0
50000000000000000000.000	10.0	0.0
100000000000000000000.000	10.0	0.0
200000000000000000000.000	10.0	0.0
500000000000000000000.000	10.0	0.0
1000000000000000000000.000	10.0	0.0
2000000000000000000000.000	10.0	0.0
5000000000000000000000.000	10.0	0.0
10000000000000000000000.000	10.0	0.0
20000000000000000000000.000	10.0	0.0
50000000000000000000000.000	10.0	0.0
100000000000000000000000.000	10.0	0.0
200000000000000000000000.000	10.0	0.0
500000000000000000000000.000	10.0	0.0
1000000000000000000000000.000	10.0	0.0
2000000000000000000000000.000	10.0	0.0
5000000000000000000000000.000	10.0	0.0

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY	10	pH	O ₂ ppm	Cond.	Temp.(C)
%	00:00 01:00 02:00 04:00 24:00 48:00 72:00 96:00	%	7.9	15.0	15.0	15.0	15.5
			8.5	15.0	15.0	15.0	15.5
			515	15.0	15.0	15.0	16.0
			8.3				

[illegible]

96 Hour LC50	: 14.1 %
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95% fid- limits : 10.0 - 20.0 %

Comments : Lethal

TOXICITY TEST REPORT Sample: 01900099

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Bar & Strip Lagoon, (100)
Laboratory : MOE
Sampling Method : Grab
Sampled By : L. McCormack
Date Collected : 05/28/90
Received : 05/31/90
Tested : 06/01/90 at: 1000
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	04:00	25:00	48:30	71:00	96:00	%	
100	0	10	10	10	10	10	100	
65	0	10	10	10	10	10	100	
40	0	10	10	10	10	10	100	
30	0	10	10	10	10	10	100	
20	0	10	10	10	10	10	100	
10	0	0	3	3	3	3	30	
5	0	0	0	0	0	0	0	
1	0	0	0	0	0	0	0	
Control							0	
96 Hour LC50	: 11.5 %							
95% fid. limits	: 9.4 - 14.0 %							
Comments	: MISA Audit							

TOXICITY TEST PARAMETERS

Sample Number: 01900099

TEST CONC. %	E L A P S E D T I M E						
	00:00	04:00	25:00	48:30	71:00	96:00	
100	pH 02 ppm Cond. Temp(C)	8.9 9.1 205 15.0	8.9 9.5 205 15.0				
65	pH 02 ppm Cond. Temp(C)	8.4 9.2 225 15.0					
40	pH 02 ppm Cond. Temp(C)	8.2 9.2 240 15.0					
30	pH 02 ppm Cond. Temp(C)	8.1 9.7 245 15.0					
20	pH 02 ppm Cond. Temp(C)	7.9 9.6 250 15.0					
10	pH 02 ppm Cond. Temp(C)	7.8 9.5 260 15.0	7.8 9.2 200 15.0	7.7 9.8 245 15.0	7.8 9.7 260 15.0	7.8 9.2 260 15.0	
5	pH 02 ppm Cond. Temp(C)	7.8 9.4 265 15.0	7.5 9.2 235 15.0	7.6 9.8 250 15.0	7.7 9.7 265 15.0	7.7 9.5 265 15.0	
1	pH 02 ppm Cond. Temp(C)	7.7 9.3 265 15.0	7.7 9.3 240 15.0	7.7 9.7 255 15.0	7.8 9.7 265 15.0	7.8 9.2 265 15.0	
Control	pH 02 ppm Cond. Temp(C)	7.5 8.7 135 15.0	7.4 9.1 135 15.0	7.6 9.5 135 15.0	7.6 9.6 140 15.0	7.7 9.5 150 15.0	

MISA Trout

TOXICITY TEST REPORT Sample: 03900533

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Bar & Strip Lagoon, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 06/26/90
Received : 06/27/90
Tested : 06/28/90 at: 1530

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	10	10	10	100
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	1	10
10	0	0	0	1	1	10
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : 80.6 %

95% fid. limits : 65.0 - 100.0 %

Comments :

SLOPE of Mortality Curve : Geometric Mean
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900533

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00 72:00 96:00

100	pH 7.7	7.7	7.7	7.7	7.7
	O2 ppm 9.0	9.0	9.0	8.1	8.1
	Cond. 212	212	212	219	219
	Temp(C) 16.0	15.5	15.5	15.5	15.5
65	pH 7.8	7.8	7.8	8.3	8.3
	O2 ppm 9.2	9.2	9.2	9.6	9.6
	Cond. 332	332	332	335	335
	Temp(C) 16.0	15.5	15.5	15.5	15.5
40	pH 7.9	7.9	7.9	8.3	8.3
	O2 ppm 9.2	9.2	9.2	9.4	9.4
	Cond. 412	412	412	416	416
	Temp(C) 16.0	15.5	15.5	15.5	15.5
20	pH 7.9	7.9	7.9	8.2	8.2
	O2 ppm 9.2	9.2	9.2	8.8	8.8
	Cond. 473	473	473	476	476
	Temp(C) 16.0	15.5	15.5	15.5	15.5
10	pH 7.9	7.9	7.9	8.4	8.4
	O2 ppm 9.2	9.2	9.2	9.2	9.2
	Cond. 505	505	505	507	507
	Temp(C) 16.0	15.5	15.5	15.5	15.5
5	pH 7.9	7.9	7.9	8.2	8.2
	O2 ppm 9.2	9.2	9.2	8.9	8.9
	Cond. 518	518	518	522	522
	Temp(C) 16.0	15.5	15.5	15.5	15.5
Control	pH 7.9	7.9	7.9	8.2	8.2
	O2 ppm 9.3	9.3	9.3	8.9	8.9
	Cond. 534	534	534	536	536
	Temp(C) 16.0	15.5	15.5	15.5	15.5

MISA Trout

SLOPE of Mortality Curve : 5.5
LC50 Calculated By : Probit

TOXICITY TEST REPORT Sample: 03900626

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Bar & Strip Lagoon, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 07/23/90
Received : 07/25/90
Tested : 07/25/90 at: 1610

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	01:00	24:00	48:00	72:00	96:00	%
100	0	10	10	10	10	10	100
65	0	10	10	10	10	10	100
40	0	10	10	10	10	10	100
20	0	0	10	10	10	10	100
10	0	0	1	1	1	1	10
5	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0

96 Hour LC50 : 12.6 %

95% fid. limits : 9.4 - 16.9 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03900626

TEST CONC. %

E L A P S E D T I M E

00:00 01:00 24:00 48:00 72:00 96:00

100	pH 9.0	9.0	9.0	9.0	9.0	9.0
	O2 ppm 9.8	9.8	9.8	9.8	9.8	9.8
	Cond. 294	294	294	294	294	294
	Temp(C) 16.0	15.5	15.5	15.5	15.5	15.5
65	pH 8.3	8.3	8.3	8.3	8.3	8.3
	O2 ppm 9.7	9.7	9.7	9.7	9.7	9.7
	Cond. 391	391	391	391	391	391
	Temp(C) 16.0	15.5	15.5	15.5	15.5	15.5
40	pH 8.1	8.1	8.1	8.1	8.1	8.1
	O2 ppm 9.6	9.6	9.6	9.6	9.6	9.6
	Cond. 445	445	445	445	445	445
	Temp(C) 16.0	15.5	15.5	15.5	15.5	15.5
20	pH 7.9	7.9	7.9	7.9	7.9	7.9
	O2 ppm 9.4	9.4	9.4	9.4	9.4	9.4
	Cond. 492	492	492	492	492	492
	Temp(C) 16.0	15.5	15.5	15.5	15.5	15.5
10	pH 7.9	7.9	7.9	7.9	7.9	7.9
	O2 ppm 9.4	9.4	9.4	9.4	9.4	9.4
	Cond. 513	513	513	513	513	513
	Temp(C) 16.0	15.5	15.5	15.5	15.5	15.5
5	pH 7.8	7.8	7.8	7.8	7.8	7.8
	O2 ppm 9.3	9.3	9.3	9.3	9.3	9.3
	Cond. 519	519	519	519	519	519
	Temp(C) 16.0	15.5	15.5	15.5	15.5	15.5
Control	pH 7.8	7.8	7.8	7.8	7.8	7.8
	O2 ppm 9.3	9.3	9.3	9.3	9.3	9.3
	Cond. 542	542	542	542	542	542
	Temp(C) 16.0	15.5	15.5	15.5	15.5	15.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900152

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : 60 inch Sewer, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 02/26/90
Received : 02/28/90
Tested : 03/01/90 at: 1030

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900152

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00

100	pH	7.8				7.9
	O2 ppm	9.9				9.7
	Cond.	114				123
	Temp(C)	15.0	14.5	14.5	14.0	14.0
65	pH	7.9				8.0
	O2 ppm	9.3				9.4
	Cond.	274				285
	Temp(C)	15.0	14.5	14.5	14.0	14.0
40	pH	7.9				8.3
	O2 ppm	9.0				9.8
	Cond.	379				384
	Temp(C)	15.0	14.5	14.5	14.0	14.0
20	pH	7.9				8.4
	O2 ppm	8.9				9.7
	Cond.	463				472
	Temp(C)	15.0	14.5	14.5	14.0	14.0
10	pH	7.9				8.4
	O2 ppm	8.8				9.7
	Cond.	502				509
	Temp(C)	15.0	14.5	14.5	14.0	14.0
5	pH	7.9				8.4
	O2 ppm	8.7				9.5
	Cond.	518				524
	Temp(C)	15.0	14.5	14.5	14.0	14.0
Control	pH	7.9				8.4
	O2 ppm	8.1				9.4
	Cond.	544				558
	Temp(C)	15.0	14.5	14.5	14.0	14.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 01900089

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : 60 inch Sewer, (200)
Laboratory : MOE
Sampling Method : Grab
Sampled By : L. McCormack
Date Collected : 05/23/90
Received : 05/25/90
Tested : 05/25/90 at: 1100

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	01:00	02:00	25:00	49:00	69:00	96:00	%
100	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit; Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 01900089

TEST CONC.	E L A P S E D T I M E						
%	00:00	01:00	02:00	25:00	49:00	69:00	96:00
100	pH 7.4 02 ppm 9.5 Cond. 90 Temp(C) 15.0	7.5 9.0 90 15.0	7.7 9.5 130 15.0	7.7 9.7 130 15.0	7.7 9.4 250 15.0	7.5 9.4 230 15.0	7.5 9.8 240 15.0
65	pH 7.7 02 ppm 9.4 Cond. 150 Temp(C) 15.0	7.7 9.0 150 15.0	7.7 9.4 200 15.0	7.6 9.6 200 15.0	7.5 9.3 155 15.0	7.5 9.5 150 15.0	7.7 9.9 150 15.0
40	pH 7.7 02 ppm 8.9 Cond. 195 Temp(C) 15.0	7.7 8.9 195 15.0	7.7 9.5 250 15.0	7.6 9.4 250 15.0	7.5 9.0 195 15.0	7.5 9.0 195 15.0	7.8 9.9 195 15.0
30	pH 7.8 02 ppm 8.8 Cond. 210 Temp(C) 15.0	7.8 8.8 210 15.0	7.7 9.7 265 15.0	7.7 9.6 275 15.0	7.6 9.3 215 15.0	7.6 9.3 215 15.0	7.8 9.9 210 15.0
20	pH 7.7 02 ppm 8.9 Cond. 225 Temp(C) 15.0	7.7 8.9 225 15.0	7.6 9.4 290 15.0	7.6 9.5 295 15.0	7.6 9.3 230 15.0	7.6 9.2 230 15.0	7.8 9.8 225 15.0
10	pH 7.9 02 ppm 8.9 Cond. 250 Temp(C) 15.0	7.9 8.9 250 15.0	7.5 9.2 305 15.0	7.8 9.6 310 15.0	7.6 9.2 245 15.0	7.6 9.2 245 15.0	7.8 9.8 240 15.0
Control	pH 7.7 02 ppm 8.7 Cond. 260 Temp(C) 15.0	7.7 8.7 260 15.0	7.2 8.9 315 15.0	7.7 9.8 325 15.0	7.5 9.2 250 15.0	7.5 9.2 250 15.0	7.9 9.9 255 15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900534

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : 60 inch Sewer, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 06/25/90
Received : 06/27/90
Tested : 06/28/90 at: 1535

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
65	0	0	0	0	0
40	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900534

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH 7.9 O2 ppm 9.4 Cond. 111 Temp(C) 16.0	15.5	15.5	15.5
65	pH 7.9 O2 ppm 9.3 Cond. 281 Temp(C) 16.0	15.5	15.5	15.5
40	pH 7.9 O2 ppm 9.2 Cond. 374 Temp(C) 16.0	15.5	15.5	15.5
20	pH 7.9 O2 ppm 8.9 Cond. 457 Temp(C) 16.0	15.5	15.5	15.5
10	pH 7.9 O2 ppm 8.7 Cond. 501 Temp(C) 16.0	15.5	15.5	15.5
5	pH 7.9 O2 ppm 8.8 Cond. 513 Temp(C) 16.0	15.5	15.5	15.5
Control	pH 7.9 O2 ppm 8.5 Cond. 537 Temp(C) 16.0	15.5	15.5	15.5

TOXICITY TEST REPORT Sample: 03900151

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : 30 inch Sewer, (300)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 02/26/90
Received : 02/28/90
Tested : 03/01/90 at: 1015

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
65	0	0	0	0	0
40	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900151

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00

100	pH	7.8			7.6
	O2 ppm	9.9			9.0
	Cond.	136			142
	Temp(C)	15.0	14.5	14.5	14.0
65	pH	7.9			8.1
	O2 ppm	9.5			9.5
	Cond.	291			299
	Temp(C)	15.0	14.5	14.5	14.0
40	pH	7.9			8.3
	O2 ppm	9.4			9.7
	Cond.	391			396
	Temp(C)	15.0	14.5	14.5	14.0
20	pH	7.9			8.2
	O2 ppm	9.3			9.2
	Cond.	467			471
	Temp(C)	15.0	14.5	14.5	14.0
10	pH	7.9			8.1
	O2 ppm	9.2			8.9
	Cond.	508			521
	Temp(C)	15.0	14.5	14.5	14.0
5	pH	7.9			8.3
	O2 ppm	9.1			9.6
	Cond.	525			533
	Temp(C)	15.0	14.5	14.5	14.0
Control	pH	7.9			8.3
	O2 ppm	8.2			9.2
	Cond.	542			544
	Temp(C)	15.0	14.5	14.5	14.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900535

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : 30 inch Sewer, (300)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 06/25/90
Received : 06/27/90
Tested : 06/28/90 at: 1540

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900535

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 7.8 O2 ppm 9.3 Cond. 148 Temp(C) 16.0	15.5	15.5	15.5	7.8 9.3 154 15.5
65	pH 7.8 O2 ppm 9.2 Cond. 291 Temp(C) 16.0	15.5	15.5	15.5	8.2 9.4 296 15.5
40	pH 7.9 O2 ppm 9.1 Cond. 387 Temp(C) 16.0	15.5	15.5	15.5	8.2 9.4 393 15.5
20	pH 7.9 O2 ppm 9.1 Cond. 459 Temp(C) 16.0	15.5	15.5	15.5	8.4 9.5 464 15.5
10	pH 7.9 O2 ppm 8.9 Cond. 493 Temp(C) 16.0	15.5	15.5	15.5	8.3 9.4 498 15.5
5	pH 7.9 O2 ppm 8.9 Cond. 515 Temp(C) 16.0	15.5	15.5	15.5	8.4 9.5 516 15.5
Control	pH 7.8 O2 ppm 8.8 Cond. 533 Temp(C) 16.0	15.5	15.5	15.5	8.4 9.5 532 15.5

TOXICITY TEST REPORT Sample: 03890312

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Tube Mill, (400)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 11/27/89
Received : 11/29/89
Tested : 11/30/89 at: 1330

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	1	10
Control	0	0	0	0	0	0

96 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890312

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00

100	pH	8.8			7.6
	O2 ppm	10.5			9.2
	Cond.	187			203
	Temp(C)	15.0	15.0	14.5	14.0
65	pH	8.1			8.1
	O2 ppm	10.3			9.4
	Cond.	330			346
	Temp(C)	15.0	15.0	14.5	14.0
40	pH	7.9			8.2
	O2 ppm	10.1			9.6
	Cond.	425			436
	Temp(C)	15.0	15.0	14.5	14.0
20	pH	7.8			8.4
	O2 ppm	9.7			9.5
	Cond.	496			501
	Temp(C)	15.0	15.0	14.5	14.0
10	pH	7.8			8.4
	O2 ppm	9.6			9.4
	Cond.	536			541
	Temp(C)	15.0	15.0	14.5	14.0
Control	pH	7.8			8.3
	O2 ppm	9.4			9.2
	Cond.	564			572
	Temp(C)	15.0	15.0	14.5	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890364

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Tube Mill, (400)
Laboratory : BAR
Sampling Method : Grab
Sampled By : R. King
Date Collected : 12/13/89
Received : 12/15/89
Tested : 12/18/89 at: 820
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. ONE, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890364

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00

100	pH 02 ppm Cond. Temp(C)	8.1 10.0 230 15.0	14.0	14.0	14.0	8.1 9.9 228 14.0
65	pH 02 ppm Cond. Temp(C)	8.0 9.6 349 15.0	14.0	14.0	14.0	8.3 9.7 353 14.0
40	pH 02 ppm Cond. Temp(C)	7.9 9.2 433 15.0	14.0	14.0	14.0	8.4 9.7 432 14.0
20	pH 02 ppm Cond. Temp(C)	7.8 8.9 498 15.0	14.0	14.0	14.0	8.5 10.0 496 14.0
10	pH 02 ppm Cond. Temp(C)	7.8 8.6 530 15.0	14.0	14.0	14.0	8.5 9.9 524 14.0
5	pH 02 ppm Cond. Temp(C)	7.8 8.5 545 15.0	14.0	14.0	14.0	8.5 10.0 535 14.0
Control	pH 02 ppm Cond. Temp(C)	7.8 8.4 555 15.0	14.0	14.0	14.0	8.5 9.9 556 14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900070

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Tube Mill, (400)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 01/22/90
Received : 01/25/90
Tested : 01/26/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900070

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 7.8 O2 ppm 9.6 Cond. 128 Temp(C) 15.0	14.5	14.5	14.5	7.8 9.9 135 14.5
65	pH 7.9 O2 ppm 9.5 Cond. 279 Temp(C) 15.0	14.5	14.5	14.5	8.1 9.9 284 14.5
40	pH 7.9 O2 ppm 9.1 Cond. 381 Temp(C) 15.0	14.5	14.5	14.5	8.2 9.8 383 14.5
20	pH 8.0 O2 ppm 8.7 Cond. 462 Temp(C) 15.0	14.5	14.5	14.5	8.4 10.1 459 14.5
10	pH 7.9 O2 ppm 8.7 Cond. 498 Temp(C) 15.0	14.5	14.5	14.5	8.3 9.6 498 14.5
5	pH 7.9 O2 ppm 8.8 Cond. 517 Temp(C) 15.0	14.5	14.5	14.5	8.5 10.1 512 14.5
Control	pH 7.9 O2 ppm 8.6 Cond. 540 Temp(C) 15.0	14.5	14.5	14.5	8.5 10.0 545 14.5

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900149

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Tube Mill, (400)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 02/26/90
Received : 02/28/90
Tested : 03/01/90 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test--Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900149

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.1 O2 ppm 10.1 Cond. 133 Temp(C) 15.0	14.5	14.5	14.0	7.8 8.9 136 14.0
100	pH 8.1 O2 ppm 10.1 Cond. 133 Temp(C) 15.0	14.5	14.5	14.0	7.9 9.2 142 14.0
Control	pH 7.9 O2 ppm 8.2 Cond. 544 Temp(C) 15.0	14.5	14.5	14.0	8.4 8.6 543 14.0
Control	pH 7.9 O2 ppm 8.2 Cond. 544 Temp(C) 15.0	14.5	14.5	14.0	8.5 9.2 541 14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900247

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)

Region : Northeast
Industry : Iron and Steel

Control point : Tube Mill, (400)

Laboratory : BAR

Sampling Method : Grab

Sampled By : B. Murray

Date Collected : 03/26/90

Received : 03/28/90

Tested : 03/29/90 at: 900

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout

Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	1	10
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; 5% mort.a 100%

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900247

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.3 O2 ppm 11.1 Cond. 158 Temp(C) 15.0	14.5	15.0	14.5	14.0
100	pH 8.3 O2 ppm 11.1 Cond. 158 Temp(C) 15.0	14.5	15.0	14.5	14.0
Control	pH 8.0 O2 ppm 9.7 Cond. 530 Temp(C) 15.0	14.5	15.0	14.5	14.0
Control	pH 8.0 O2 ppm 9.7 Cond. 530 Temp(C) 15.0	14.5	15.0	14.5	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900329

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Tube Mill, (400)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 04/23/90
Received : 04/25/90
Tested : 04/25/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal; single concentration test

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900329

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.2 O2 ppm 9.3 Cond. 141 Temp(C) 15.0				7.5 9.0 142 15.5
100	pH 8.2 O2 ppm 9.3 Cond. 141 Temp(C) 15.0		15.5	15.5	15.5
Control	pH 7.9 O2 ppm 9.5 Cond. 551 Temp(C) 15.0		15.5	15.5	8.2 9.3 534 15.5
Control	pH 7.9 O2 ppm 9.5 Cond. 551 Temp(C) 15.0		15.5	15.5	8.3 9.2 534 15.5

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 01900092

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel

Control point : Tube Mill, (400)

Laboratory : MOE
Sampling Method : Grab
Sampled By : L. McCormack
Date Collected : 05/23/90
Received : 05/28/90
Tested : 05/28/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E										TOTAL MORTALITY
%	00:00	00:30	01:00	18:30	41:30	65:30	96:00				%
100	0	0	0	0	0	0	0				0
65	0	0	0	0	0	0	0				0
40	0	0	0	0	0	0	0				0
30	0	0	0	0	0	0	0				0
20	0	0	0	0	0	0	0				0
10	0	0	0	0	0	0	0				0
Control	0	0	0	0	0	0	0				0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit; Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 01900092

TEST CONC. %	E L A P S E D T I M E									
	00:00	00:30	01:00	18:30	41:30	65:30	96:00			
100	pH 7.8 02 ppm 8.4 Cond. 125 Temp(C) 15.0	8.0 9.5 130 15.0	7.7 9.7 120 15.0	7.7 9.8 125 15.0	7.6 9.8 130 15.0	7.5 9.7 130 15.0				
65	pH 7.9 02 ppm 9.5 Cond. 180 Temp(C) 15.0	8.0 9.5 185 15.0	7.9 9.8 180 15.0	7.9 9.9 175 15.0	7.7 9.9 175 15.0	7.7 10.0 180 15.0				
40	pH 7.9 02 ppm 9.7 Cond. 220 Temp(C) 15.0	7.9 9.7 220 15.0	8.0 9.8 210 15.0	7.9 9.9 210 15.0	7.8 9.9 210 15.0	7.7 9.9 215 15.0				
30	pH 7.8 02 ppm 9.8 Cond. 235 Temp(C) 15.0	7.8 9.8 235 15.0	8.0 9.9 225 15.0	8.0 10.0 225 15.0	7.8 10.0 225 15.0	7.8 10.0 230 15.0				
20	pH 7.9 02 ppm 9.8 Cond. 250 Temp(C) 15.0	7.9 9.8 250 15.0	8.0 9.7 240 15.0	7.9 9.9 235 15.0	7.8 9.9 240 15.0	7.8 10.0 245 15.0				
10	pH 7.8 02 ppm 9.8 Cond. 260 Temp(C) 15.0	7.8 9.8 260 15.0	7.5 8.2 255 15.0	7.9 9.8 255 15.0	7.8 9.7 255 15.0	7.8 9.9 255 15.0				
Control	pH 7.5 02 ppm 9.7 Cond. 260 Temp(C) 15.0	7.5 9.7 260 15.0	8.0 9.7 260 15.0	7.9 9.8 265 15.0	7.8 9.9 265 15.0	7.8 9.8 265 15.0				

MISA Trout

TOXICITY TEST REPORT Sample: 039000424

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Tube Mill, (400)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 05/28/90
Received : 05/30/90
Tested : 05/30/90 at: 1640

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single concentration test; Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 039000424

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.1 O2 ppm 9.1 Cond. 166 Temp(C) 15.0				7.9 8.3 172 15.5
100	pH 8.1 O2 ppm 9.1 Cond. 166 Temp(C) 15.0				7.6 8.2 173 15.5
Control	pH 7.9 O2 ppm 8.7 Cond. 538 Temp(C) 15.0				8.3 8.3 536 15.5
Control	pH 7.9 O2 ppm 8.7 Cond. 538 Temp(C) 15.0				8.3 8.3 535 15.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900536

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Tube Mill, (400)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 06/25/90
Received : 06/27/90
Tested : 06/28/90 at: 1445

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single concentration test; Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900536

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00
100	pH 7.7 O2 ppm 9.1 Cond. 140 Temp(C) 16.0	16.0	15.5	15.5	7.9 9.4 146 15.5
100	pH 7.7 O2 ppm 9.1 Cond. 140 Temp(C) 16.0	16.0	15.5	15.5	8.0 9.5 145 15.5
Control	pH 7.9 O2 ppm 9.1 Cond. 538 Temp(C) 16.0	16.0	15.5	15.5	8.4 9.3 534 15.5
Control	pH 7.9 O2 ppm 9.1 Cond. 538 Temp(C) 16.0	16.0	15.5	15.5	8.4 9.4 537 15.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900627

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Tube Mill, (400)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 07/23/90
Received : 07/25/90
Tested : 07/25/90 at: 1620

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
100	0	0	0	0	0
Control	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal; single concentration test

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900627

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00
100	pH 7.8 O2 ppm 9.7 Cond. 128 Temp(C) 16.0	15.5	15.0	14.5
100	pH 7.8 O2 ppm 9.7 Cond. 128 Temp(C) 16.0	15.5	15.0	14.5
Control	pH 7.8 O2 ppm 9.4 Cond. 543 Temp(C) 16.0	15.5	15.0	14.5
Control	pH 7.8 O2 ppm 9.4 Cond. 543 Temp(C) 16.0	15.5	15.0	14.5

TOXICITY TEST REPORT Sample: 03900148

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Cold Mill 24 inch, (500)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 02/26/90
Received : 02/28/90
Tested : 03/01/90 at: 1330

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. ONE, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900148

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00

100	pH	7.7				7.9
	O2 ppm	10.4				9.4
	Cond.	116				121
	Temp(C)	15.0	14.5	14.5	14.0	14.0
65	pH	7.9				8.1
	O2 ppm	9.8				9.2
	Cond.	280				285
	Temp(C)	15.0	14.5	14.5	14.0	14.0
40	pH	7.9				8.4
	O2 ppm	9.6				9.4
	Cond.	374				377
	Temp(C)	15.0	14.5	14.5	14.0	14.0
20	pH	7.9				8.4
	O2 ppm	9.3				9.2
	Cond.	458				465
	Temp(C)	15.0	14.5	14.5	14.0	14.0
10	pH	7.9				8.2
	O2 ppm	9.2				8.6
	Cond.	506				507
	Temp(C)	15.0	14.5	14.5	14.0	14.0
5	pH	7.9				8.4
	O2 ppm	9.1				9.2
	Cond.	523				526
	Temp(C)	15.0	14.5	14.5	14.0	14.0
Control	pH	7.9				8.4
	O2 ppm	8.2				8.9
	Cond.	543				542
	Temp(C)	15.0	14.5	14.5	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 019000097

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Cold Mill 24 inch, (500)
Laboratory : MOE
Sampling Method : Grab
Sampled By : L. McCormack
Date Collected : 05/23/90
Received : 05/28/90
Tested : 05/28/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	00:30	01:00	19:00	42:00	66:00	96:00	%
100	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit; Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 019000097

TEST CONC. %	E L A P S E D T I M E						
	00:00	00:30	01:00	19:00	42:00	66:00	96:00
100	pH 7.5 O2 ppm 9.1 Cond. 90 Temp(C) 15.0	7.9 9.7 100 15.0	7.6 9.7 90 15.0	7.6 9.7 90 15.0	7.6 9.5 90 15.0	7.6 9.3 90 15.0	7.5 9.7 90 15.0
65	pH 7.8 O2 ppm 9.7 Cond. 165 Temp(C) 15.0	7.8 9.7 165 15.0	7.8 9.6 155 15.0	7.8 9.6 155 15.0	7.8 9.3 155 15.0	7.7 9.3 155 15.0	7.7 9.9 155 15.0
40	pH 7.8 O2 ppm 9.7 Cond. 205 Temp(C) 15.0	7.8 9.7 205 15.0	7.9 9.6 200 15.0	7.8 9.6 200 15.0	7.8 9.3 200 15.0	7.8 9.3 200 15.0	7.7 9.8 200 15.0
30	pH 7.8 O2 ppm 9.8 Cond. 225 Temp(C) 15.0	7.8 9.8 225 15.0	8.0 9.7 215 15.0	8.0 9.7 215 15.0	8.0 9.3 215 15.0	7.8 9.3 215 15.0	7.8 9.9 210 15.0
20	pH 7.8 O2 ppm 9.8 Cond. 240 Temp(C) 15.0	7.8 9.8 240 15.0	8.0 9.9 235 15.0	8.0 9.7 230 15.0	8.0 9.5 235 15.0	7.9 9.5 235 15.0	7.8 9.9 235 15.0
10	pH 7.8 O2 ppm 9.8 Cond. 255 Temp(C) 15.0	7.8 9.8 255 15.0	8.0 9.9 250 15.0	8.0 9.7 250 15.0	8.0 9.4 250 15.0	7.9 9.4 250 15.0	7.8 9.9 255 15.0
Control	pH 7.8 O2 ppm 9.7 Cond. 270 Temp(C) 15.0	7.8 9.7 255 15.0	8.0 9.8 270 15.0	8.0 9.4 265 15.0	8.0 9.2 265 15.0	7.9 9.2 265 15.0	7.8 9.8 270 15.0

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900537

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00 72:00 96:00

100	pH 7.8 O2 ppm 9.6 Cond. 112 Temp(C) 15.5	7.9 9.5 119 16.0
65	pH 7.9 O2 ppm 9.5 Cond. 270 Temp(C) 15.5	8.1 9.3 277 16.0
40	pH 7.9 O2 ppm 9.4 Cond. 372 Temp(C) 15.5	8.4 9.6 378 16.0
20	pH 7.9 O2 ppm 9.2 Cond. 450 Temp(C) 15.5	8.4 9.4 458 16.0
10	pH 7.9 O2 ppm 9.1 Cond. 494 Temp(C) 15.5	8.4 9.4 501 16.0
5	pH 7.9 O2 ppm 9.2 Cond. 511 Temp(C) 15.5	8.5 9.6 513 16.0
Control	pH 7.9 O2 ppm 8.5 Cond. 535 Temp(C) 15.5	8.5 9.5 536 16.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900537

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Cold Mill 24 inch, (500)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 06/25/90
Received : 06/27/90
Tested : 06/28/90 at: 1525

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY %
%	00:00 24:00 48:00 72:00 96:00	%
100	0 0 0 0 0	0
65	0 0 0 0 0	0
40	0 0 0 0 0	0
20	0 0 0 0 0	0
10	0 0 0 0 0	0
5	0 0 0 0 0	0
Control	0 0 0 0 0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

TOXICITY TEST REPORT

Sample: 03890313

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Terminal Settling Basin, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 11/27/89
Received : 11/29/89
Tested : 11/30/89 at: 1330

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	1	1	10
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	1	10
Control	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890313

TEST
CONC.
%

E L A P S E D T I M E

00:00 24:00 48:00 72:00 96:00

100	pH	7.8	7.8	7.7
	O2 ppm	10.1	207	9.4
	Cond.	15.0	15.0	226
	Temp(C)	15.0	14.5	14.0
65	pH	7.8	7.8	8.2
	O2 ppm	9.8	341	9.4
	Cond.	15.0	15.0	354
	Temp(C)	15.0	14.5	14.0
40	pH	7.8	7.8	8.4
	O2 ppm	9.7	428	9.6
	Cond.	15.0	15.0	441
	Temp(C)	15.0	14.5	14.0
20	pH	7.8	7.8	8.4
	O2 ppm	9.6	500	9.5
	Cond.	15.0	15.0	511
	Temp(C)	15.0	14.5	14.0
10	pH	7.8	7.8	8.5
	O2 ppm	9.3	539	9.5
	Cond.	15.0	15.0	546
	Temp(C)	15.0	14.5	14.0
Control	pH	7.8	7.8	8.4
	O2 ppm	9.3	570	9.3
	Cond.	15.0	15.0	570
	Temp(C)	15.0	14.5	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890365

TEST CONDITIONS

Company : Algoma Steel
 : Sault Ste. Marie, ONT
 (40006)
 Region : Northeast
 Industry : Iron and Steel
 Control point : Terminal Settling Basin, (700)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : R. King
 Date Collected : 12/13/89
 Received : 12/15/89 at: 830
 Tested : 12/18/89
 Type of Bioassay : STATIC
 : (Protocol to determine the acute lethality
 : of liquid effluents to fish. ONE, 1983).
 Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
65	0	0	0	0	0
40	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890365

TEST CONC.	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH 8.1 O2 ppm 10.1 Cond. 189 Temp(C) 15.0	14.0	14.0	14.0
65	pH 7.9 O2 ppm 9.6 Cond. 322 Temp(C) 15.0	14.0	14.0	14.0
40	pH 7.8 O2 ppm 9.1 Cond. 411 Temp(C) 15.0	14.0	14.0	14.0
20	pH 7.8 O2 ppm 8.6 Cond. 508 Temp(C) 15.0	14.0	14.0	14.0
10	pH 7.7 O2 ppm 8.5 Cond. 518 Temp(C) 15.0	14.0	14.0	14.0
5	pH 7.7 O2 ppm 8.5 Cond. 546 Temp(C) 15.0	14.0	14.0	14.0
Control	pH 7.8 O2 ppm 8.7 Cond. 555 Temp(C) 15.0	14.0	14.0	14.0

TOXICITY TEST REPORT Sample: 03900071

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Terminal Settling Basin, (700)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 01/22/90
Received : 01/25/90
Tested : 01/26/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
65	0	0	0	0	0
40	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900071

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH 7.7 O2 ppm 10.1 Cond. 198 Temp(C) 15.0	14.5	14.5	14.5
65	pH 7.8 O2 ppm 9.7 Cond. 322 Temp(C) 15.0	14.5	14.5	14.5
40	pH 7.9 O2 ppm 9.5 Cond. 412 Temp(C) 15.0	14.5	14.5	14.5
20	pH 7.9 O2 ppm 9.3 Cond. 476 Temp(C) 15.0	14.5	14.5	14.5
10	pH 7.9 O2 ppm 9.2 Cond. 506 Temp(C) 15.0	14.5	14.5	14.5
5	pH 7.9 O2 ppm 9.1 Cond. 520 Temp(C) 15.0	14.5	14.5	14.5
Control	pH 7.9 O2 ppm 9.0 Cond. 540 Temp(C) 15.0	14.5	14.5	14.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900153

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)

Region : Northeast
Industry : Iron and Steel

Control point : Terminal Settling Basin, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 02/26/90
Received : 02/28/90
Tested : 03/01/90 at: 1415

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	1	1	10
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test--Lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900153

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 7.7 O2 ppm 10.4 Cond. 205 Temp(C) 15.0	14.5	14.5	14.0	14.0
100	pH 7.7 O2 ppm 10.4 Cond. 205 Temp(C) 15.0	14.5	14.5	14.0	14.0
Control	pH 7.9 O2 ppm 8.2 Cond. 544 Temp(C) 15.0	14.5	14.5	14.0	14.0
Control	pH 7.9 O2 ppm 8.2 Cond. 544 Temp(C) 15.0	14.5	14.5	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900248

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Terminal Settling Basin, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 03/26/90
Received : 03/28/90
Tested : 03/29/90 at: 920

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
100	0	0	0	0	0
Control	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test; non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900248

TEST CONC.	E L A P S E D T I M E			
%	00:00	24:00	48:00	72:00 96:00
100	pH 8.0 O2 ppm 11.3 Cond. 199 Temp(C) 15.0	14.5	15.0	14.5 7.4 7.6 197
100	pH 8.0 O2 ppm 11.3 Cond. 199 Temp(C) 15.0	14.5	15.0	14.5 7.6 8.3 198
Control	pH 7.9 O2 ppm 9.6 Cond. 529 Temp(C) 15.0	14.5	15.0	14.5 8.4 8.4 526
Control	pH 7.9 O2 ppm 9.6 Cond. 529 Temp(C) 15.0	14.5	15.0	14.5 8.3 8.2 525

MISA Trout

TOXICITY TEST REPORT Sample: 03900330

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Terminal Settling Basin, (700)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 04/23/90
Received : 04/25/90
Tested : 04/25/90 at: 1505

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal; single concentration test

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900330

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00
100	pH 7.5	7.5	7.5	7.1	8.4
	O2 ppm 9.5	9.5	9.5	8.4	236
	Cond. 232	232	232	236	236
	Temp(C) 15.0	15.5	15.5	15.5	15.5
100	pH 7.5	7.5	7.5	7.3	9.0
	O2 ppm 9.5	9.5	9.5	9.0	235
	Cond. 232	232	232	235	235
	Temp(C) 15.0	15.5	15.5	15.5	15.5
Control	pH 7.9	7.9	7.9	8.3	9.4
	O2 ppm 9.2	9.2	9.2	9.4	530
	Cond. 548	548	548	530	530
	Temp(C) 15.0	15.5	15.5	15.5	15.5
Control	pH 7.9	7.9	7.9	8.2	9.4
	O2 ppm 9.2	9.2	9.2	9.4	533
	Cond. 548	548	548	533	533
	Temp(C) 15.0	15.5	15.5	15.5	15.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900425

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel

Control point : Terminal Settling Basin, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 05/28/90
Received : 05/30/90
Tested : 05/30/90 at: 1635

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single concentration test; Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900425

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH	7.4			7.7
	O2 ppm	9.0			8.4
	Cond.	282			286
100	Temp(C)	15.0	15.0	15.0	15.5
	pH	7.4			7.7
	O2 ppm	9.0			8.4
Control	Cond.	282			285
	Temp(C)	15.0	15.0	15.0	15.5
	pH	7.8			8.3
Control	O2 ppm	8.6			8.3
	Cond.	536			538
	Temp(C)	15.0	15.0	15.0	15.5
Control	pH	7.8			8.4
	O2 ppm	8.6			8.3
	Cond.	536			536
Control	Temp(C)	15.0	15.0	15.0	15.5

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 019000098

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Terminal Settling Basin, (700)

Laboratory : MOE
Sampling Method : Grab
Sampled By : L. McCormack
Date Collected : 05/28/90
Received : 05/31/90
Tested : 06/01/90 at: 1000

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	01:00	02:00	26:00	49:00	71:00	96:00	%
100	0	0	0	0	0	1	1	10
65	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 019000098

TEST CONC. %	E L A P S E D T I M E						
	00:00	01:00	02:00	26:00	49:00	71:00	96:00
100	pH 02 ppm Cond. Temp(C)	6.6 8.0 150 15.0	7.3 9.6 145 15.0	7.4 9.9 160 15.0	7.4 9.9 150 15.0	7.4 9.8 150 15.0	7.5 9.4 150 15.0
65	pH 02 ppm Cond. Temp(C)	7.4 9.4 185 15.0	7.3 9.5 190 15.0	7.3 9.6 180 15.0	7.4 9.5 190 15.0	7.4 9.5 190 15.0	7.6 9.5 190 15.0
40	pH 02 ppm Cond. Temp(C)	7.5 9.5 215 15.0	7.5 9.9 210 15.0	7.5 9.8 185 15.0	7.7 9.7 220 15.0	7.7 9.7 220 15.0	7.7 9.0 220 15.0
30	pH 02 ppm Cond. Temp(C)	7.6 9.6 225 15.0	7.7 9.8 220 15.0	7.7 9.8 210 15.0	7.6 9.3 230 15.0	7.6 9.3 230 15.0	7.6 8.7 230 15.0
20	pH 02 ppm Cond. Temp(C)	7.6 9.7 235 15.0	7.6 9.4 235 15.0	7.6 9.2 230 15.0	7.7 9.6 240 15.0	7.7 9.6 240 15.0	7.8 8.6 240 15.0
10	pH 02 ppm Cond. Temp(C)	7.6 9.5 250 15.0	7.1 8.1 240 15.0	6.9 7.9 235 15.0	7.0 3.8 255 15.0	7.0 3.8 255 15.0	7.8 9.7 255 15.0
Control	pH 02 ppm Cond. Temp(C)	7.7 9.6 260 15.0	7.5 9.9 245 15.0	7.7 9.8 250 15.0	7.8 9.7 260 15.0	7.8 9.7 260 15.0	7.8 9.8 265 15.0

TOXICITY TEST REPORT Sample: 03900538

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel

Control point : Terminal Settling Basin, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 06/25/90
Received : 06/27/90
Tested : 06/28/90 at: 1530

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900538

TEST CONC. % E L A P S E D T I M E
00:00 24:00 48:00 72:00 96:00

100	pH 7.2	7.2	7.6	7.6	7.6
	O2 ppm 9.2	9.2	9.2	9.2	9.2
	Cond. 224	224	224	224	224
	Temp(C) 15.5	15.5	15.5	16.0	16.0
65	pH 7.6	7.6	7.7	7.7	7.7
	O2 ppm 9.2	9.2	9.3	9.3	9.3
	Cond. 338	338	337	337	337
	Temp(C) 15.5	15.5	15.5	16.0	16.0
40	pH 7.7	7.7	8.3	8.3	8.3
	O2 ppm 9.2	9.2	9.3	9.3	9.3
	Cond. 414	414	414	414	414
	Temp(C) 15.5	15.5	15.5	16.0	16.0
20	pH 7.8	7.8	8.4	8.4	8.4
	O2 ppm 9.1	9.1	9.3	9.3	9.3
	Cond. 477	477	471	471	471
	Temp(C) 15.5	15.5	15.5	16.0	16.0
10	pH 7.8	7.8	8.4	8.4	8.4
	O2 ppm 8.9	8.9	9.3	9.3	9.3
	Cond. 507	507	496	496	496
	Temp(C) 15.5	15.5	15.5	16.0	16.0
5	pH 7.8	7.8	8.3	8.3	8.3
	O2 ppm 8.8	8.8	9.0	9.0	9.0
	Cond. 513	513	514	514	514
	Temp(C) 15.5	15.5	15.5	16.0	16.0
Control	pH 7.8	7.8	8.4	8.4	8.4
	O2 ppm 8.9	8.9	9.2	9.2	9.2
	Cond. 532	532	531	531	531
	Temp(C) 15.5	15.5	15.5	16.0	16.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900628

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Terminal Settling Basin, (700)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 07/23/90
Received : 07/25/90
Tested : 07/25/90 at: 1700

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal; single concentration test

Sample Number: 03900628

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00
100	pH 7.1 O2 ppm 9.4 Cond. 267 Temp(C) 15.5	15.5	15.0	14.5	7.6 9.2 275 14.5
100	pH 7.1 O2 ppm 9.4 Cond. 267 Temp(C) 15.5	15.5	15.0	14.5	7.2 8.6 268 14.5
Control	pH 7.8 O2 ppm 9.4 Cond. 542 Temp(C) 15.5	15.5	15.0	14.5	8.2 8.2 541 14.5
Control	pH 7.8 O2 ppm 9.4 Cond. 542 Temp(C) 15.5	15.5	15.0	14.5	8.2 8.1 539 14.5

TOXICITY TEST REPORT Sample: 03900426

TEST CONDITIONS

Company : Algoma Steel
 Sault Ste. Marie, ONT
 (40006)
 Region : Northeast
 Industry : Iron and Steel
 Control point : Boiler House, (800)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : B. Murray
 Date Collected : 05/28/90
 Received : 05/30/90
 Tested : 05/31/90 at: 1115

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
65	0	0	0	0	0
40	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal
 95% fid. limits : 0.0 - 0.0 %
 Comments : Non lethal

SLOPE of Mortality Curve :
 LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900426

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH 7.9 O2 ppm 9.6 Cond. 109 Temp(C) 15.0	15.0	15.0	15.5 16.0
65	pH 7.9 O2 ppm 9.3 Cond. 266 Temp(C) 15.0	15.0	15.0	15.5 16.0
40	pH 7.9 O2 ppm 8.9 Cond. 374 Temp(C) 15.0	15.0	15.0	15.5 16.0
20	pH 7.9 O2 ppm 8.6 Cond. 452 Temp(C) 15.0	15.0	15.0	15.5 16.0
10	pH 7.9 O2 ppm 8.3 Cond. 496 Temp(C) 15.0	15.0	15.0	15.5 16.0
5	pH 7.9 O2 ppm 8.4 Cond. 516 Temp(C) 15.0	15.0	15.0	15.5 16.0
Control	pH 7.9 O2 ppm 8.5 Cond. 538 Temp(C) 15.0	15.0	15.0	15.5 16.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900539

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Algoma Steel
 : Sault Ste. Marie, ONT
 : (40006)
Region : Northeast
Industry : Iron and Steel

Control point : Boiler House, (800)

Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 06/25/90
 Received : 06/27/90
 Tested : 06/29/90 at: 1130

Type of Bioassay : STATIC
 : (Protocol to determine the acute lethality
 : of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

Sample Number: 03900539

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.0 O2 ppm 10.2 Cond. 110 Temp(C) 16.0				7.9 9.8 117 15.5
65	pH 8.0 O2 ppm 10.2 Cond. 272 Temp(C) 16.0				8.1 9.5 279 15.5
40	pH 8.0 O2 ppm 10.2 Cond. 386 Temp(C) 16.0				8.0 8.9 394 15.5
20	pH 8.0 O2 ppm 10.1 Cond. 471 Temp(C) 16.0				8.4 9.8 474 15.5
10	pH 8.0 O2 ppm 10.0 Cond. 511 Temp(C) 16.0				8.4 9.8 512 15.5
5	pH 8.0 O2 ppm 10.1 Cond. 537 Temp(C) 16.0				8.3 9.6 536 15.5
Control	pH 8.0 O2 ppm 10.7 Cond. 555 Temp(C) 16.0				8.4 9.7 556 15.5

TOXICITY TEST REPORT Sample: 03900150

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)

Region : Northeast
Industry : Iron and Steel

Control point : #2 Steel Making CW, (1000)

Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 02/26/90
Received : 02/28/90
Tested : 03/01/90 at: 1300

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	1	1	1	10
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900150

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 7.9 O2 ppm 10.4 Cond. 122 Temp(C) 15.0	14.5	14.5	14.0	8.0 9.4 132 14.0
65	pH 7.9 O2 ppm 9.7 Cond. 287 Temp(C) 15.0	14.5	14.5	14.0	8.0 9.0 292 14.0
40	pH 7.9 O2 ppm 9.1 Cond. 384 Temp(C) 15.0	14.5	14.5	14.0	8.3 9.3 386 14.0
20	pH 7.9 O2 ppm 8.4 Cond. 468 Temp(C) 15.0	14.5	14.5	14.0	8.4 8.8 463 14.0
10	pH 7.9 O2 ppm 8.4 Cond. 503 Temp(C) 15.0	14.5	14.5	14.0	8.4 9.0 501 14.0
5	pH 7.9 O2 ppm 8.3 Cond. 526 Temp(C) 15.0	14.5	14.5	14.0	8.5 9.4 521 14.0
Control	pH 7.9 O2 ppm 8.1 Cond. 544 Temp(C) 15.0	14.5	14.5	14.0	8.3 9.1 549 14.0

MISA Trout

TOXICITY TEST REPORT Sample: 01900094

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : #2 Steel Making CW, (1000)

Laboratory : MOE
Sampling Method : Grab
Sampled By : L. McCormack
Date Collected : 05/23/90
Received : 05/28/90
Tested : 05/28/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	00:30	01:00	18:30	42:00	66:00	96:00	%
100	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	1	10
40	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0

96 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : MISA Audit

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 01900094

TEST CONC. %
E L A P S E D T I M E
00:00 00:30 01:00 18:30 42:00 66:00 96:00

100	pH 7.3	7.7	7.7	7.5	7.6	7.5
	O2 ppm 8.4	9.3	9.8	9.9	9.8	9.8
	Cond. 95	105	95	95	100	100
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0
65	pH 7.8	7.8	7.8	7.8	7.7	7.7
	O2 ppm 9.6	9.6	9.8	9.8	9.9	9.9
	Cond. 160	160	160	160	160	160
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0
40	pH 7.8	7.8	7.8	7.9	7.7	7.7
	O2 ppm 9.7	9.7	9.6	9.9	9.7	9.8
	Cond. 210	205	205	200	205	210
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0
30	pH 7.8	7.8	7.6	7.8	7.6	7.7
	O2 ppm 8.8	9.8	8.8	9.6	9.3	9.9
	Cond. 225	225	220	215	220	220
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0
20	pH 7.8	7.8	7.8	7.9	7.8	7.8
	O2 ppm 9.8	9.8	9.7	9.9	9.8	9.9
	Cond. 245	235	235	235	235	240
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0
10	pH 7.8	7.8	7.9	8.0	7.9	7.8
	O2 ppm 9.8	9.8	9.7	9.9	9.8	9.9
	Cond. 255	255	250	250	250	255
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0
Control	pH 7.8	7.8	7.6	7.8	7.6	7.8
	O2 ppm 9.8	9.8	8.7	9.6	9.0	9.9
	Cond. 240	265	265	270	270	270
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900540

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : #2 Steel Making CW, (1000)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 06/25/90
Received : 06/27/90
Tested : 06/29/90 at: 1140

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900540

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 7.8 O2 ppm 9.5 Cond. 129 Temp(C) 16.0	15.5	15.5	15.5	7.8 10.0 136 15.5
65	pH 7.9 O2 ppm 9.5 Cond. 281 Temp(C) 16.0	15.5	15.5	15.5	8.1 9.8 290 15.5
40	pH 7.9 O2 ppm 9.6 Cond. 384 Temp(C) 16.0	15.5	15.5	15.5	8.3 10.1 387 15.5
20	pH 7.9 O2 ppm 9.5 Cond. 466 Temp(C) 16.0	15.5	15.5	15.5	8.4 10.1 467 15.5
10	pH 7.9 O2 ppm 9.5 Cond. 503 Temp(C) 16.0	15.5	15.5	15.5	8.5 10.1 502 15.5
5	pH 7.9 O2 ppm 9.5 Cond. 525 Temp(C) 16.0	15.5	15.5	15.5	8.5 10.1 524 15.5
Control	pH 7.9 O2 ppm 9.5 Cond. 542 Temp(C) 16.0	15.5	15.5	15.5	8.4 10.0 542 15.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900154

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)

Region : Northeast
Industry : Iron and Steel

Control point : Cold Mill 20 inch, (1500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 02/26/90
Received : 02/28/90
Tested : 03/01/90 at: 1030

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
65	0	0	0	0	0
40	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900154

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00 72:00 96:00

100	pH 7.7	7.7	7.6
	O2 ppm 10.4	10.4	8.9
	Cond. 115	115	121
	Temp(C) 15.0	14.5	14.0
65	pH 7.9	7.9	8.1
	O2 ppm 9.4	9.4	9.5
	Cond. 278	278	280
	Temp(C) 15.0	14.5	14.0
40	pH 7.9	7.9	8.2
	O2 ppm 8.9	8.9	9.4
	Cond. 380	380	388
	Temp(C) 15.0	14.5	14.0
20	pH 7.9	7.9	8.2
	O2 ppm 8.7	8.7	9.4
	Cond. 459	459	465
	Temp(C) 15.0	14.5	14.0
10	pH 7.9	7.9	8.3
	O2 ppm 8.5	8.5	9.4
	Cond. 514	514	523
	Temp(C) 15.0	14.5	14.0
5	pH 7.9	7.9	8.2
	O2 ppm 8.5	8.5	9.4
	Cond. 525	525	530
	Temp(C) 15.0	14.5	14.0
Control	pH 7.9	7.9	8.1
	O2 ppm 8.2	8.2	8.8
	Cond. 543	543	557
	Temp(C) 15.0	14.5	14.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 01900093

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Cold Mill 20 inch, (1500)
Laboratory : MOE
Sampling Method : Grab
Sampled By : L. McCormack
Date Collected : 05/23/90
Received : 05/28/90
Tested : 05/28/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	00:30	01:00	18:30	42:00	66:00	96:00	%
100	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit; Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 01900093

TEST CONC. %	E L A P S E D T I M E						
	00:00	00:30	01:00	18:30	42:00	66:00	96:00
100	pH 7.5 O2 ppm 9.6 Cond. 85 Temp(C) 15.0	7.8 9.8 105 15.0	7.7 9.8 90 15.0	7.5 9.9 85 15.0	7.5 9.8 90 15.0	7.5 9.8 90 15.0	7.5 9.8 90 15.0
65	pH 7.8 O2 ppm 9.7 Cond. 170 Temp(C) 15.0	7.7 9.7 170 15.0	7.9 9.8 155 15.0	7.8 9.9 155 15.0	7.7 9.9 155 15.0	7.7 9.9 155 15.0	7.7 9.9 155 15.0
40	pH 7.8 O2 ppm 9.7 Cond. 215 Temp(C) 15.0	7.8 9.7 215 15.0	7.9 9.8 200 15.0	7.9 10.0 200 15.0	7.8 9.9 195 15.0	7.8 9.9 195 15.0	7.7 9.9 200 15.0
30	pH 7.8 O2 ppm 9.8 Cond. 230 Temp(C) 15.0	7.8 9.8 230 15.0	7.8 9.5 215 15.0	7.9 9.9 215 15.0	7.8 9.9 215 15.0	7.8 9.9 215 15.0	7.8 9.9 220 15.0
20	pH 7.9 O2 ppm 9.6 Cond. 235 Temp(C) 15.0	7.9 9.8 245 15.0	7.9 9.6 235 15.0	8.0 9.9 235 15.0	7.8 9.9 235 15.0	7.8 9.9 235 15.0	7.8 9.9 235 15.0
10	pH 7.8 O2 ppm 9.8 Cond. 260 Temp(C) 15.0	7.8 9.8 260 15.0	7.7 8.6 250 15.0	8.0 10.0 250 15.0	7.8 9.8 250 15.0	7.8 9.8 250 15.0	7.8 10.0 255 15.0
Control	pH 7.8 O2 ppm 9.7 Cond. 260 Temp(C) 15.0	7.8 9.7 260 15.0	8.0 9.8 265 15.0	8.0 9.9 265 15.0	7.8 9.9 270 15.0	7.8 9.8 270 15.0	7.8 9.9 270 15.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900541

TEST CONDITIONS

Company : Algoma Steel
 : Sault Ste. Marie, ONT
 : (40006)
Region : Northeast
Industry : Iron and Steel

Control point : Cold Mill 20 inch, (1500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 06/25/90
Received : 06/27/90
Tested : 06/29/90 at: 1145

Type of Bioassay : STATIC
 : (Protocol to determine the acute lethality
 : of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900541

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00
100	pH 7.9 O2 ppm 9.7 Cond. 108 Temp(C) 16.0	7.9 9.7 108 15.5	7.9 9.7 108 15.5	7.9 9.7 108 15.5	7.7 9.4 113 16.0
65	pH 7.9 O2 ppm 9.6 Cond. 272 Temp(C) 16.0	7.9 9.6 272 15.5	7.9 9.6 272 15.5	7.9 9.6 272 15.5	8.1 9.9 273 16.0
40	pH 7.9 O2 ppm 9.6 Cond. 378 Temp(C) 16.0	7.9 9.6 378 15.5	7.9 9.6 378 15.5	7.9 9.6 378 15.5	8.2 9.9 380 16.0
20	pH 7.9 O2 ppm 9.5 Cond. 456 Temp(C) 16.0	7.9 9.5 456 15.5	7.9 9.5 456 15.5	7.9 9.5 456 15.5	8.3 9.9 455 16.0
10	pH 7.9 O2 ppm 9.4 Cond. 501 Temp(C) 16.0	7.9 9.4 501 15.5	7.9 9.4 501 15.5	7.9 9.4 501 15.5	8.4 9.8 502 16.0
5	pH 7.9 O2 ppm 9.4 Cond. 520 Temp(C) 16.0	7.9 9.4 520 15.5	7.9 9.4 520 15.5	7.9 9.4 520 15.5	8.4 9.9 519 16.0
Control	pH 7.9 O2 ppm 9.5 Cond. 541 Temp(C) 16.0	7.9 9.5 541 15.5	7.9 9.5 541 15.5	7.9 9.5 541 15.5	8.4 9.6 533 16.0

TOXICITY TEST REPORT Sample: 03900155

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Coke Oven Condenser, (1600)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 02/26/90
Received : 02/28/90
Tested : 03/01/90 at: 1600

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
65	0	0	0	0	0
40	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900155

TEST CONC.	E L A P S E D T I M E			
%	00:00	24:00	48:00	72:00 96:00
100	pH 7.9 O2 ppm 10.2 Cond. 123 Temp(C) 15.0	14.5	14.5	14.0 14.0
65	pH 8.0 O2 ppm 9.8 Cond. 279 Temp(C) 15.0	14.5	14.5	14.0 14.0
40	pH 8.0 O2 ppm 9.5 Cond. 384 Temp(C) 15.0	14.5	14.5	14.0 14.0
20	pH 7.9 O2 ppm 9.1 Cond. 464 Temp(C) 15.0	14.5	14.5	14.0 14.0
10	pH 7.9 O2 ppm 8.6 Cond. 503 Temp(C) 15.0	14.5	14.5	14.0 14.0
5	pH 8.0 O2 ppm 8.6 Cond. 522 Temp(C) 15.0	14.5	14.5	14.0 14.0
Control	pH 7.9 O2 ppm 8.4 Cond. 543 Temp(C) 15.0	14.5	14.5	14.0 14.0

MISA Trout

TOXICITY TEST REPORT Sample: 019000090

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)

Region : Northeast
Industry : Iron and Steel

Control point : Coke Oven Condenser, (1600)

Laboratory : MOE
Sampling Method : Grab
Sampled By : L. McCormack
Date Collected : 05/23/90
Received : 05/25/90
Tested : 05/25/90 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	01:00	02:00	24:00	48:00	69:00	96:00	%
100	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit; Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 019000090

TEST CONC. %	E L A P S E D T I M E						
	00:00	01:00	02:00	24:00	48:00	69:00	96:00
100	pH 7.8 O2 ppm 9.4 Cond. 95 Temp(C) 15.0	7.7 8.9 100 15.0	7.7 9.8 140 15.0	7.6 9.5 125 15.0	7.6 9.3 110 15.0	7.6 9.3 110 15.0	7.6 9.8 100 15.0
65	pH 7.7 O2 ppm 8.9 Cond. 155 Temp(C) 15.0	7.8 9.4 210 15.0	7.8 9.8 200 15.0	7.7 9.5 200 15.0	7.6 9.2 165 15.0	7.6 9.2 165 15.0	7.8 9.8 155 15.0
40	pH 7.7 O2 ppm 8.8 Cond. 195 Temp(C) 15.0	7.8 9.7 255 15.0	7.8 9.7 255 15.0	7.6 9.4 250 15.0	7.6 9.0 200 15.0	7.6 9.0 200 15.0	7.8 9.9 195 15.0
30	pH 7.8 O2 ppm 9.0 Cond. 215 Temp(C) 15.0	7.8 9.7 275 15.0	7.8 9.7 275 15.0	7.7 9.6 270 15.0	7.7 9.2 215 15.0	7.7 9.2 215 15.0	7.8 9.9 210 15.0
20	pH 7.8 O2 ppm 9.1 Cond. 230 Temp(C) 15.0	7.8 9.8 315 15.0	7.8 9.8 315 15.0	7.8 9.5 290 15.0	7.8 9.4 230 15.0	7.8 9.4 230 15.0	7.8 9.8 230 15.0
10	pH 7.9 O2 ppm 9.1 Cond. 245 Temp(C) 15.0	7.9 9.7 315 15.0	7.8 9.7 315 15.0	7.8 9.5 315 15.0	7.8 9.2 245 15.0	7.8 9.2 245 15.0	7.9 9.9 245 15.0
Control	pH 7.9 O2 ppm 9.0 Cond. 270 Temp(C) 15.0	7.9 9.8 330 15.0	7.8 9.8 330 15.0	7.6 9.7 330 15.0	7.6 9.4 250 15.0	7.6 9.4 250 15.0	7.9 9.8 260 15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900542

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Coke Oven Condenser, (1600)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 06/25/90
Received : 06/27/90
Tested : 06/29/90 at: 1150

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
65	0	0	0	0	0
40	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900542

TEST CONC.	E L A P S E D T I M E			
%	00:00	24:00	48:00	72:00
100	pH 8.0 O2 ppm 9.2 Cond. 116 Temp(C) 16.0	15.5	15.5	15.5
65	pH 8.0 O2 ppm 9.0 Cond. 276 Temp(C) 16.0	15.5	15.5	15.5
40	pH 7.9 O2 ppm 8.9 Cond. 379 Temp(C) 16.0	15.5	15.5	15.5
20	pH 7.9 O2 ppm 8.9 Cond. 458 Temp(C) 16.0	15.5	15.5	15.5
10	pH 7.9 O2 ppm 8.9 Cond. 502 Temp(C) 16.0	15.5	15.5	15.5
5	pH 7.9 O2 ppm 9.0 Cond. 522 Temp(C) 16.0	15.5	15.5	15.5
Control	pH 7.9 O2 ppm 9.0 Cond. 540 Temp(C) 16.0	15.5	15.5	15.5

MISA Trout

TOXICITY TEST REPORT Sample: 03890314

TEST CONDITIONS

Company : Algoma Steel
 (40006)
 Region : Northeast
 Industry : Iron and Steel
 Control point : #2 Tube Mill, (1800)

Laboratory : BAR
 Sampling Method : Grab
 Sampled By : B. Murray
 Date Collected : 11/27/89
 Received : 11/29/89
 Tested : 11/30/89 at: 1330

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	1	1	10
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : >100%
 95% fid. limits : 0.0 - 0.0 %
 Comments : LC50 >100%

SLOPE of Mortality Curve :
 LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890314

TEST CONC. %		E L A P S E D T I M E				
		00:00	24:00	48:00	72:00	96:00
100	pH	7.8				7.6
	O2 ppm	10.4				8.8
	Cond.	151				165
	Temp(C)	15.0	15.0	14.5	14.5	14.0
65	pH	7.8				7.9
	O2 ppm	9.8				8.7
	Cond.	312				321
	Temp(C)	15.0	15.0	14.5	14.5	14.0
40	pH	7.8				8.1
	O2 ppm	9.7				8.9
	Cond.	404				418
	Temp(C)	15.0	15.0	14.5	14.5	14.0
20	pH	7.8				8.2
	O2 ppm	9.5				8.9
	Cond.	495				500
	Temp(C)	15.0	15.0	14.5	14.5	14.0
10	pH	7.8				8.4
	O2 ppm	9.4				9.2
	Cond.	530				531
	Temp(C)	15.0	15.0	14.5	14.5	14.0
Control	pH	7.8				7.7
	O2 ppm	9.2				9.4
	Cond.	570				558
	Temp(C)	15.0	15.0	14.5	14.5	14.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03890363

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : #2 Tube Mill, (1800)

Laboratory : BAR
Sampling Method : Grab
Sampled By : R. King
Date Collected : 12/13/89
Received : 12/15/89
Tested : 12/18/89 at: 815

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890363

TEST
CONC.
%

E L A P S E D T I M E

00:00 24:00 48:00 72:00 96:00

100	pH	7.9				8.2
	O2 ppm	10.3				10.7
	Cond.	188				186
	Temp(C)	15.0	14.0	14.0	14.0	14.0
65	pH	7.8				8.3
	O2 ppm	9.8				10.4
	Cond.	323				322
	Temp(C)	15.0	14.0	14.0	14.0	14.0
40	pH	7.8				8.3
	O2 ppm	9.2				10.4
	Cond.	418				418
	Temp(C)	15.0	14.0	14.0	14.0	14.0
20	pH	7.7				8.5
	O2 ppm	8.7				10.5
	Cond.	490				484
	Temp(C)	15.0	14.0	14.0	14.0	14.0
10	pH	7.8				8.5
	O2 ppm	8.4				10.5
	Cond.	515				515
	Temp(C)	15.0	14.0	14.0	14.0	14.0
5	pH	7.8				8.4
	O2 ppm	8.4				10.4
	Cond.	537				520
	Temp(C)	15.0	14.0	14.0	14.0	14.0
Control	pH	7.8				8.4
	O2 ppm	8.4				10.3
	Cond.	560				563
	Temp(C)	15.0	14.0	14.0	14.0	14.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900072

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : #2 Tube Mill, (1800)

Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 01/22/90
Received : 01/25/90
Tested : 01/26/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900072

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00 72:00 96:00

100	pH 7.8 O2 ppm 10.2 Cond. 166 Temp(C) 15.0	14.5	14.5	14.5	14.5	7.8 9.7 169 14.5
65	pH 7.9 O2 ppm 9.8 Cond. 304 Temp(C) 15.0	14.5	14.5	14.5	14.5	8.1 9.7 310 14.5
40	pH 7.9 O2 ppm 9.3 Cond. 401 Temp(C) 15.0	14.5	14.5	14.5	14.5	8.3 10.0 405 14.5
20	pH 7.9 O2 ppm 9.2 Cond. 468 Temp(C) 15.0	14.5	14.5	14.5	14.5	8.3 9.7 472 14.5
10	pH 7.9 O2 ppm 9.1 Cond. 503 Temp(C) 15.0	14.5	14.5	14.5	14.5	8.3 9.7 507 14.5
5	pH 7.9 O2 ppm 9.0 Cond. 520 Temp(C) 15.0	14.5	14.5	14.5	14.5	8.4 9.9 526 14.5
Control	pH 7.9 O2 ppm 8.6 Cond. 540 Temp(C) 15.0	14.5	14.5	14.5	14.5	8.5 10.1 537 14.5

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900147

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : #2 Tube Mill, (1800)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 02/26/90
Received : 02/28/90
Tested : 03/01/90 at: 1000

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. DME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test--Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900147

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 7.9 O2 ppm 10.1 Cond. 114 Temp(C) 14.5	14.5	14.5	14.0	8.0 9.3 125 14.0
100	pH 7.9 O2 ppm 10.1 Cond. 114 Temp(C) 14.5	14.5	14.5	14.0	7.7 9.0 119 14.0
Control	pH 7.9 O2 ppm 8.3 Cond. 543 Temp(C) 14.5	14.5	14.5	14.0	8.1 8.1 550 14.0
Control	pH 7.9 O2 ppm 8.3 Cond. 543 Temp(C) 14.5	14.5	14.5	14.0	8.3 8.5 540 14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900249

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : #2 Tube Mill, (1800)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 03/26/90
Received : 03/28/90
Tested : 03/29/90 at: 930

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
100	0	0	0	0	0
Control	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900249

TEST CONC. %	E L A P S E D T I M E					
	00:00	24:00	48:00	72:00	96:00	
100	pH 7.6 O2 ppm 11.0 Cond. 148 Temp(C) 15.0	14.5	15.0	14.5	14.5	7.7 8.8 153 14.5
100	pH 7.6 O2 ppm 11.0 Cond. 148 Temp(C) 15.0	14.5	15.0	14.5	14.5	7.6 8.7 155 14.5
Control	pH 7.9 O2 ppm 9.9 Cond. 530 Temp(C) 15.0	14.5	15.0	14.5	14.5	8.3 8.5 525 14.5
Control	pH 7.9 O2 ppm 9.9 Cond. 530 Temp(C) 15.0	14.5	15.0	14.5	14.5	8.3 9.6 526 14.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900331

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : #2 Tube Mill, (1800)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 04/23/90
Received : 04/25/90
Tested : 04/25/90 at: 1510

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
100	0	0	0	0	0
Control	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal; single concentration test

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900331

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH 8.0 O2 ppm 9.7 Cond. 131 Temp(C) 15.0	15.5	15.5	15.5
100	pH 8.0 O2 ppm 9.7 Cond. 131 Temp(C) 15.0	15.5	15.5	15.5
Control	pH 7.9 O2 ppm 8.9 Cond. 550 Temp(C) 15.0	15.5	15.5	15.5
Control	pH 7.9 O2 ppm 8.9 Cond. 550 Temp(C) 15.0	15.5	15.5	15.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900368

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : #2 Tube Mill, (1800)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 05/07/90
Received : 05/09/90
Tested : 05/09/90 at: 1245

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. ONE, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	1	10

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal; single concentration test

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900368

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH	7.7			7.8
	O2 ppm	9.8			8.9
	Cond.	165			178
	Temp(C)	15.0	16.0	15.0	14.0
100	pH	7.7			7.8
	O2 ppm	9.8			9.3
	Cond.	165			169
	Temp(C)	15.0	16.0	15.0	14.0
Control	pH	7.9			8.5
	O2 ppm	8.9			9.2
	Cond.	546			536
	Temp(C)	15.0	16.0	15.0	14.0
Control	pH	7.9			8.5
	O2 ppm	8.9			9.2
	Cond.	546			542
	Temp(C)	15.0	16.0	15.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900427

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : #2 Tube Mill, (1800)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 05/28/90
Received : 05/30/90
Tested : 05/31/90 at: 1120

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single concentration test; non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900427

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 7.9 O2 ppm 9.3 Cond. 214 Temp(C) 15.0	pH 9.3 O2 ppm 214 Cond. 15.0	pH 15.0 O2 ppm 15.0 Cond. 15.0	pH 15.0 O2 ppm 15.0 Cond. 15.0	pH 7.8 O2 ppm 8.7 Cond. 215 Temp(C) 16.0
100	pH 7.9 O2 ppm 9.3 Cond. 214 Temp(C) 15.0	pH 9.3 O2 ppm 214 Cond. 15.0	pH 15.0 O2 ppm 15.0 Cond. 15.0	pH 15.0 O2 ppm 15.0 Cond. 15.0	pH 7.8 O2 ppm 8.6 Cond. 211 Temp(C) 16.0
Control	pH 7.9 O2 ppm 8.6 Cond. 535 Temp(C) 15.0	pH 8.6 O2 ppm 535 Cond. 15.0	pH 15.0 O2 ppm 15.0 Cond. 15.0	pH 15.0 O2 ppm 15.0 Cond. 15.0	pH 8.4 O2 ppm 9.0 Cond. 530 Temp(C) 16.0
Control	pH 7.9 O2 ppm 8.6 Cond. 535 Temp(C) 15.0	pH 8.6 O2 ppm 535 Cond. 15.0	pH 15.0 O2 ppm 15.0 Cond. 15.0	pH 15.0 O2 ppm 15.0 Cond. 15.0	pH 8.4 O2 ppm 9.2 Cond. 531 Temp(C) 16.0

MISA Trout

TOXICITY TEST REPORT Sample: 01900100

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : #2 Tube Mill, (1800)
Laboratory : MOE
Sampling Method : Grab
Sampled By : L. McCormack
Date Collected : 05/28/90
Received : 05/31/90
Tested : 06/01/90 at: 1000

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	02:00	04:00	25:00	49:00	71:00 96:00	%
100	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit; Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 01900100

TEST CONC. %	E L A P S E D T I M E					
	00:00	02:00	04:00	25:00	49:00	71:00 96:00
100	pH 7.5 O2 ppm 8.7 Cond. 135 Temp(C) 15.0	7.4 9.1 135 15.0	7.6 9.5 135 15.0	7.6 9.6 140 15.0	7.6 9.6 140 15.0	7.7 9.6 150 15.0
65	pH 7.7 O2 ppm 9.5 Cond. 185 Temp(C) 15.0	7.7 9.5 185 15.0	7.7 9.5 185 15.0	7.8 9.7 175 15.0	7.8 9.8 190 15.0	7.8 9.6 185 15.0
40	pH 7.7 O2 ppm 9.5 Cond. 215 Temp(C) 15.0	7.7 9.5 215 15.0	7.7 9.4 200 15.0	7.7 9.5 190 15.0	7.7 9.5 220 15.0	7.8 9.5 220 15.0
30	pH 7.6 O2 ppm 9.5 Cond. 225 Temp(C) 15.0	7.6 9.5 225 15.0	7.7 9.5 205 15.0	7.7 9.7 220 15.0	7.8 9.8 230 15.0	7.8 9.6 230 15.0
20	pH 7.7 O2 ppm 9.6 Cond. 235 Temp(C) 15.0	7.7 9.6 235 15.0	7.7 9.5 205 15.0	7.7 9.8 225 15.0	7.8 9.8 240 15.0	7.8 9.6 240 15.0
10	pH 7.7 O2 ppm 9.5 Cond. 245 Temp(C) 15.0	7.7 9.5 245 15.0	7.8 9.4 235 15.0	7.7 9.7 230 15.0	7.7 9.7 250 15.0	7.8 9.3 250 15.0
Control	pH 7.8 O2 ppm 9.5 Cond. 260 Temp(C) 15.0	7.8 9.5 260 15.0	7.7 9.8 255 15.0	7.8 9.6 255 15.0	7.8 9.7 260 15.0	7.8 9.1 265 15.0

TOXICITY TEST REPORT Sample: 03900543

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : #2 Tube Mill, (1800)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 06/25/90
Received : 06/27/90
Tested : 06/27/90 at: 1030

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single concentration test; Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900543

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 7.9 O2 ppm 9.5 Cond. 166 Temp(C) 15.5	15.5	16.0	15.5	7.5 8.0 178 15.5
100	pH 7.9 O2 ppm 9.5 Cond. 166 Temp(C) 15.5	15.5	16.0	15.5	7.5 7.9 174 15.5
Control	pH 7.9 O2 ppm 9.2 Cond. 540 Temp(C) 15.5	15.5	16.0	15.5	8.2 8.3 541 15.5
Control	pH 7.9 O2 ppm 9.2 Cond. 540 Temp(C) 15.5	15.5	16.0	15.5	8.3 8.7 545 15.5

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900625

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : #2 Tube Mill, (1800)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 07/23/90
Received : 07/25/90
Tested : 07/25/90 at: 1505

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
100	0	0	0	0	0
Control	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal; single concentration test

TOXICITY TEST PARAMETERS

Sample Number: 03900625

TEST CONC.	ELAPSED TIME			
%	00:00	24:00	48:00	72:00 96:00
100	pH 8.0 O2 ppm 9.6 Cond. 210 Temp(C) 15.5	8.0 9.6 210 15.5	15.0 15.0 15.0 15.0	14.5 14.5 14.5 14.5
100	pH 8.0 O2 ppm 9.6 Cond. 210 Temp(C) 15.5	8.0 9.6 210 15.5	15.0 15.0 15.0 15.0	14.5 14.5 14.5 14.5
Control	pH 7.8 O2 ppm 9.4 Cond. 539 Temp(C) 15.5	7.8 9.4 539 15.5	15.0 15.0 15.0 15.0	14.5 14.5 14.5 14.5
Control	pH 7.8 O2 ppm 9.4 Cond. 539 Temp(C) 15.5	7.8 9.4 539 15.5	15.0 15.0 15.0 15.0	14.5 14.5 14.5 14.5

TOXICITY TEST REPORT Sample: 01900096

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : 24 inch Coke Quench, (2000)

Laboratory : MOE
Sampling Method : Grab
Sampled By : L. McCormack
Date Collected : 05/23/90
Received : 05/28/90
Tested : 05/28/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY	
%	00:00	00:30	01:00	19:00	42:00	66:00	96:00	%	
100	0	0	0	0	10	10	10	100	
65	0	0	0	3	5	5	5	50	
40	0	0	0	0	0	0	1	10	
30	0	0	0	0	0	0	0	0	
20	0	0	0	0	0	0	0	0	
10	0	0	0	0	0	0	1	10	
Control	0	0	0	0	0	0	0	0	

96 Hour LC50 : 59.3 %

95% fid. limits : 50.9 - 71.5 %

Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 01900096

TEST CONC.		E L A P S E D T I M E						
%		00:00	00:30	01:00	19:00	42:00	66:00	96:00
100	pH	8.3	8.3	7.9	7.5	7.2	7.2	
	O2 ppm	8.4	8.8	9.7	7.5	6.6	7.6	
	Cond.	280	280	280	285	290	285	
65	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	
	pH	8.2	8.2	7.9	7.8	7.6	7.7	
	O2 ppm	9.1	9.1	9.9	9.6	9.2	9.9	
40	Cond.	275	275	275	280	280	280	
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	
30	pH	8.1	8.1	7.9	7.9	7.8	7.8	
	O2 ppm	9.2	9.2	9.9	10.0	9.9	10.0	
	Cond.	275	275	275	270	270	275	
20	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	
	pH	8.0	8.0	7.8	7.9	7.8	7.8	
	O2 ppm	9.7	9.7	9.8	10.0	9.9	10.0	
10	Cond.	270	270	270	270	270	275	
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	
Control	pH	7.9	7.9	8.0	8.0	7.8	7.8	
	O2 ppm	9.7	9.7	9.9	10.1	9.9	10.0	
	Cond.	275	275	270	265	270	270	
Control	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	
	pH	7.9	7.9	8.0	8.0	7.9	7.8	
	O2 ppm	9.8	9.8	10.0	10.0	9.9	10.0	
Control	Cond.	270	270	270	265	270	270	
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	
Control	pH	7.8	7.8	8.0	7.9	7.9	7.8	
	O2 ppm	9.8	9.8	9.9	9.9	9.8	9.9	
	Cond.	255	255	265	265	265	270	
Control	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	

COMPANY: Algoma Steel, Sault Ste. Marie
(40006)
SECTOR: Iron and Steel
REGION: Northeast

SUMMARY

Data for fifty *Daphnia magna* acute lethality toxicity tests conducted on samples of effluent collected between November 1989 and April 1990 were submitted by Algoma Steel Corp. of Sault Ste. Marie. This company was not in operation during part of July and all of August due to a steel workers strike, therefore no samples were submitted for these months.

Samples from coke oven condenser (1600), cold mill 20 inch sewer (1500), 30 inch sewer (300), the 60 inch sewer (200), and #2 steel making cooling water (1000) and cold mill 24 inch sewer (500) were not acutely lethal to *Daphnia*, or had 48 h LC50 values > 100%. The audit sample collected in May from the coke oven condenser was acutely lethal to *Daphnia* (LC50 = 25.5%).

Eight of nine samples collected from the tube mill (400) were all not acutely lethal to *Daphnia*, as was the Ministry audit. One sample had an LC50 >100%

Six of nine samples of # 2 tube mill (1800) effluent were nonlethal, and two samples had a single mortality during the test. The sample collected in March was toxic to *Daphnia* with a 48 h LC50 = 27.8%. The Ministry audit sample had an LC50 > 100%.

Seven of nine samples from the terminal settling basin (700) were nonlethal. Two remaining samples had LC50s > 100% as did the Ministry audit.

Six of nine samples from the bar and strip lagoon (100) were acutely lethal to *Daphnia*, with 48 h LC50s between 16.2 and 90.6 % effluent. One sample was non-lethal and the remaining had LC50s >100%. The Ministry audit conducted in May had an LC50 = 57.4%. to 21.4%.

Bar & Strip Lagoon

03890311 sampled: 11/28/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal.

03890362 sampled: 12/13/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100%

03900073 sampled: 01/22/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

Algoma Steel (continued)

03900156 sampled: 02/26/90 LC50: 21.4 %
95% fid. limits: 16.2 - 28.0 %
comments:

03900246 sampled: 03/26/90 LC50: 24.8 %
95% fid. limits: 35.8 - 17.1 % slope: 2.9
comments:

03900328 sampled: 04/23/90 LC50: 79.1 %
95% fid. limits: 42.8 - 146.0 % slope: 1.4
comments:

02900099 sampled: 05/28/90 LC50: 57.4 %
95% fid. limits: 44.2 - 73.4 % slope: 5.2
comments: MISA Audit

03900423 sampled: 05/28/90 LC50: 55.1 %
95% fid. limits: 41.9 - 72.3 % slope: 4.2
comments:

03900533 sampled: 06/26/90 LC50: 50.0 - 100.0 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 Range 50 - 100

03900626 sampled: 07/23/90 LC50: 16.2 %
95% fid. limits: 12.1 - 21.6 % slope: 5.4
comments:

60 inch Sewer

03900152 sampled: 02/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

02900089 sampled: 05/23/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900534 sampled: 06/25/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

30 inch Sewer

03900151 sampled: 02/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900535 sampled: 06/25/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

Algoma Steel (continued)

Tube Mill

03890312 sampled: 11/27/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890364 sampled: 12/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900070 sampled: 01/22/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900149 sampled: 02/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900247 sampled: 03/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900329 sampled: 04/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

02900092 sampled: 05/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit; non-lethal

03900424 sampled: 05/28/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900536 sampled: 06/25/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900627 sampled: 07/23/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

Cold Mill 24 inch

03900148 sampled: 02/26/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

02900097 sampled: 05/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit; Non-lethal

Algoma Steel (continued)

03900537 sampled: 06/25/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

Cold Mill Storm Sewer

Terminal Settling Basin

03890313 sampled: 11/27/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890365 sampled: 12/13/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100%

03900071 sampled: 01/22/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900153 sampled: 02/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900248 sampled: 03/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900330 sampled: 04/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

02900098 sampled: 05/28/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900425 sampled: 05/28/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900538 sampled: 06/25/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900628 sampled: 07/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

Algoma Steel (continued)

Boiler House

03900426 sampled: 05/28/90 LC50: 11.4 %
95% fid. limits: 9.0 - 14.4 % slope: 5.6
comments:

03900539 sampled: 06/25/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

Intake Water

#2 Steel Making CW

03900150 sampled: 02/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

02900094 sampled: 05/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit; Non-lethal

03900540 sampled: 06/25/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

#1 Thickener

#2 Thickener

By-products Area

Cold Mill 20 inch

03900154 sampled: 02/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

02900093 sampled: 05/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit; Non-lethal

03900541 sampled: 06/25/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

Algoma Steel (continued)

Coke Oven Condenser

03900155 sampled: 02/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

02900090 sampled: 05/23/90 LC50: 25.5 %
95% fid. limits: 18.3 - 34.4 % slope: 4.2
comments: MISA Audit

03900542 sampled: 06/25/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

Rain Gauge

#2 Tube Mill

03890314 sampled: 11/27/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100% effluent concentration

03890363 sampled: 12/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900072 sampled: 01/22/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900147 sampled: 02/26/90 LC50: 27.8 %
95% fid. limits: 22.3 - 34.7 % slope: 5.9
comments:

03900249 sampled: 03/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900331 sampled: 04/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900368 sampled: 05/07/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900427 sampled: 05/28/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

Algoma Steel (continued)

02900100 sampled: 05/28/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900543 sampled: 06/25/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900625 sampled: 07/23/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

#1 Thickener EO

24 inch Coke Quench

02900096 sampled: 05/23/90 LC50: 0.0 - 5.0 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

TOXICITY TEST REPORT Sample: 03890311

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Bar & Strip Lagoon, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 11/28/89
Received : 11/29/89
Tested : 11/30/89 at: 1210
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal.

TOXICITY TEST PARAMETERS

Sample Number: 03890311

TEST E L A P S E D T I M E
CONC. % 00:00 24:00 48:00

100	pH	7.7	7.9
	O2 ppm	10.0	9.1
	Cond.	337	345
	Temp(C)	19.0	19.5
50	pH	8.1	8.2
	O2 ppm	9.4	9.3
	Cond.	321	330
	Temp(C)	19.0	19.5
25	pH	8.3	8.3
	O2 ppm	9.1	9.4
	Cond.	313	322
	Temp(C)	19.0	19.5
13	pH	8.3	8.3
	O2 ppm	9.0	9.4
	Cond.	309	317
	Temp(C)	19.0	19.5
6	pH	8.4	8.3
	O2 ppm	9.0	9.5
	Cond.	307	308
	Temp(C)	19.0	19.5
Control	pH	8.4	8.4
	O2 ppm	9.1	9.5
	Cond.	306	310
	Temp(C)	19.0	19.5

TOXICITY TEST REPORT Sample: 03890362

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Bar & Strip Lagoon, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : R. King
Date Collected : 12/13/89
Received : 12/15/89
Tested : 12/16/89 at: 1200

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	16
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 >100%

TOXICITY TEST PARAMETERS

Sample Number: 03890362

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.8 O2 ppm 10.6 Cond. 298 Temp(C) 20.0	8.1 8.4 300 19.0	8.1 8.4 300 20.0
50	pH 8.2 O2 ppm 9.4 Cond. 297 Temp(C) 20.0	8.2 8.8 298 19.0	8.2 8.8 298 20.0
25	pH 8.4 O2 ppm 9.1 Cond. 297 Temp(C) 20.0	8.4 8.7 299 19.0	8.3 8.7 299 20.0
13	pH 8.5 O2 ppm 8.9 Cond. 297 Temp(C) 20.0	8.5 8.9 297 19.0	8.4 8.9 298 20.0
6	pH 8.4 O2 ppm 8.8 Cond. 296 Temp(C) 20.0	8.4 9.3 298 19.0	8.5 9.3 298 20.0
Control	pH 8.5 O2 ppm 8.7 Cond. 296 Temp(C) 20.0	8.5 9.4 305 19.0	8.4 9.4 305 20.0

TOXICITY TEST REPORT Sample: 03900073

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Bar & Strip Lagoon, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 01/22/90
Received : 01/25/90
Tested : 01/25/90 at: 1530

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	ELAPSED TIME	TOTAL MORTALITY
100	0	0 2	16
50	0	0 0	0
25	0	0 1	8
13	0	0 0	0
6	0	0 0	0
Control	0	1 1	8

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900073

TEST CONC. %	ELAPSED TIME	00:00	24:00	48:00
100	pH 8.1 O2 ppm 9.3 Cond. 266 Temp(C) 20.0	8.2 8.4 268 20.5		
50	pH 8.2 O2 ppm 8.9 Cond. 286 Temp(C) 20.0	8.3 8.4 285 20.5		
25	pH 8.2 O2 ppm 8.7 Cond. 294 Temp(C) 20.0	8.4 8.4 294 20.5		
13	pH 8.2 O2 ppm 8.6 Cond. 299 Temp(C) 20.0	8.4 8.3 298 20.5		
6	pH 8.2 O2 ppm 8.5 Cond. 302 Temp(C) 20.0	8.4 8.4 302 20.5		
Control	pH 8.2 O2 ppm 8.5 Cond. 299 Temp(C) 20.0	8.3 8.5 300 20.5		

MISA Daphnia

SLOPE of Mortality Curve : Trimmed Spearman-Kärber
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900156

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Bar & Strip Lagoon, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 02/26/90
Received : 02/28/90
Tested : 03/01/90 at: 1000

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	11	12	100
50	0	5	8	66
25	0	0	11	91
13	0	0	1	8
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : 21.4 %
95% fid. limits : 16.2 - 28.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03900156

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.5 O2 ppm 9.1 Cond. 281 Temp(C) 20.0	8.5 8.5 282 20.5
50	pH 8.5 O2 ppm 8.9 Cond. 294 Temp(C) 20.0	8.4 8.5 290 20.5
25	pH 8.5 O2 ppm 8.9 Cond. 300 Temp(C) 20.0	8.5 8.4 294 20.5
13	pH 8.5 O2 ppm 8.8 Cond. 303 Temp(C) 20.0	8.4 8.4 299 20.5
6	pH 8.5 O2 ppm 8.8 Cond. 302 Temp(C) 20.0	8.4 8.6 302 20.5
Control	pH 8.5 O2 ppm 8.8 Cond. 300 Temp(C) 20.0	8.4 8.4 303 20.5

TOXICITY TEST REPORT Sample: 03900246

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Bar & Strip Lagoon, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 03/26/90
Received : 03/28/90
Tested : 03/28/90 at: 1440
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	ELAPSED TIME	TOTAL MORTALITY
100	0	10	91
50	0	3	83
25	0	3	66
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : 24.8 %

95% fid. limits : 35.8 - 17.1 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03900246

TEST CONC.	%	ELAPSED TIME
100	0	00:00 24:00 48:00

TEST CONC.	%	pH	02 ppm Cond.	Temp(C)	pH	02 ppm Cond.	Temp(C)
100	0	9.2	284	19.5	8.4	297	20.0
50	0	8.7	293	19.5	8.3	303	20.0
25	0	8.3	297	19.5	8.3	304	20.0
13	0	8.2	299	19.5	8.2	306	20.0
6	0	8.1	296	19.5	8.2	311	20.0
Control	0	8.1	301	19.5	8.1	305	20.0

TOXICITY TEST REPORT Sample: 03900328

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Bar & Strip Lagoon, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 04/23/90
Received : 04/25/90
Tested : 04/25/90 at: 1330
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	5	58
50	0	0	33
25	0	0	25
13	0	0	16
6	0	0	0
Control	0	0	0

48 Hour LC50 : 79.1 %

95% fid. limits : 42.8 - 146.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03900328

TEST CONC. %

E L A P S E D T I M E

00:00 24:00 48:00

100	pH 8.9	8.3
	O2 ppm 9.3	9.2
	Cond. 252	252
	Temp(C) 20.0	20.0
50	pH 8.4	8.3
	O2 ppm 9.3	9.2
	Cond. 278	274
	Temp(C) 20.0	20.0
25	pH 8.1	8.2
	O2 ppm 9.3	9.2
	Cond. 290	286
	Temp(C) 20.0	20.0
13	pH 8.1	8.2
	O2 ppm 9.2	9.1
	Cond. 295	291
	Temp(C) 20.0	20.0
6	pH 8.0	8.2
	O2 ppm 9.2	9.2
	Cond. 301	294
	Temp(C) 20.0	20.0
Control	pH 7.9	8.2
	O2 ppm 9.2	9.1
	Cond. 300	294
	Temp(C) 20.0	20.0

TOXICITY TEST REPORT Sample: 02900099

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Bar & Strip Lagoon, (100)
Laboratory : MOE
Sampling Method : Grab
Sampled By : M. Smithson
Date Collected : 05/28/90
Received : 05/31/90
Tested : 05/31/90 at: 1400
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	00:30	01:00	02:00	24:00	48:00	%
100	0	0	0	0	3	11	91
60	0	0	0	0	0	6	50
30	0	0	0	0	0	1	8
15	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0

48 Hour LC50 : 57.4 %

95% fid. limits : 44.2 - 73.4 %

Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 02900099

TEST CONC. %	E L A P S E D T I M E				
	00:00	00:30	01:00	02:00	24:00 48:00
100	pH 9.0 O2 ppm 8.9 Cond. 250 Temp(C) 20.0				7.8 9.1 255 20.0
60	pH 8.7 O2 ppm 8.8 Cond. 275 Temp(C) 20.0				8.0 9.1 275 20.0
30	pH 8.4 O2 ppm 8.7 Cond. 295 Temp(C) 20.0				8.0 8.9 255 20.0
15	pH 8.1 O2 ppm 8.7 Cond. 305 Temp(C) 20.0				7.9 8.9 280 20.0
5	pH 8.0 O2 ppm 8.7 Cond. 305 Temp(C) 20.0				7.8 8.9 270 20.0
Control	pH 7.8 O2 ppm 8.7 Cond. 275 Temp(C) 20.0				7.8 8.9 300 20.0

TOXICITY TEST REPORT Sample: 03900423

TEST CONDITIONS

Company : Algoma Steel
 : Sault Ste. Marie, ONT
 (40006)
 Region : Northeast
 Industry : Iron and Steel
 Control point : Bar & Strip Lagoon, (100)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : B. Murray
 Date Collected : 05/28/90
 Received : 05/30/90
 Tested : 05/31/90 at: 1140

Type of Bioassay : STATIC
 (Daphnia magna Acute Lethality Toxicity
 Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	6 10	83
50	0	2 6	50
25	0	0 0	0
13	0	0 0	0
6	0	0 0	0
Control	0	0 0	0

48 Hour LC50 : 55.1 %
 95% fid. limits : 41.9 - 72.3 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03900423

TEST CONC. % E L A P S E D T I M E
 00:00 24:00 48:00

100	pH 9.2 8.4 O2 ppm 9.1 8.2 Cond. 272 280 Temp(C) 20.5 20.5	
50	pH 8.7 8.4 O2 ppm 9.1 8.1 Cond. 282 288 Temp(C) 20.5 20.5	
25	pH 8.5 8.3 O2 ppm 9.1 8.2 Cond. 288 292 Temp(C) 20.5 20.5	
13	pH 8.4 8.3 O2 ppm 9.1 8.3 Cond. 292 293 Temp(C) 20.5 20.5	
6	pH 8.4 8.3 O2 ppm 9.0 8.3 Cond. 294 296 Temp(C) 20.5 20.5	
Control	pH 8.3 8.4 O2 ppm 8.9 8.3 Cond. 296 296 Temp(C) 20.5 20.5	

TOXICITY TEST REPORT Sample: 03900533

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Bar & Strip Lagoon, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 06/26/90
Received : 06/27/90
Tested : 06/28/90 at: 1440

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	8	66
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : 50.0 - 100.0 %

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 Range 50 - 100

TOXICITY TEST PARAMETERS

Sample Number: 03900533

TEST CONC. % E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.6 O2 ppm 8.9 Cond. 210 Temp(C) 20.5	7.8 8.8 211 20.5	7.8 8.8 211 20.5
50	pH 7.9 O2 ppm 9.0 Cond. 254 Temp(C) 20.5	8.1 8.8 257 20.5	8.1 8.8 257 20.5
25	pH 8.0 O2 ppm 9.0 Cond. 276 Temp(C) 20.5	8.2 8.8 279 20.5	8.2 8.8 279 20.5
13	pH 8.1 O2 ppm 9.0 Cond. 286 Temp(C) 20.5	8.2 8.9 289 20.5	8.2 8.9 289 20.5
6	pH 8.1 O2 ppm 9.0 Cond. 292 Temp(C) 20.5	8.2 9.0 293 20.5	8.2 9.0 293 20.5
Control	pH 8.1 O2 ppm 9.0 Cond. 299 Temp(C) 20.5	8.3 8.7 300 20.5	8.3 8.7 300 20.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900626

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel

Control point : Bar & Strip Lagoon, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 07/23/90
Received : 07/25/90
Tested : 07/25/90 at: 1535

Type of Bioassay : STATIC.
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	5 12	100
50	0	3 12	100
25	0	4 12	100
13	0	0 1	8
6	0	0 0	0
Control	0	0 0	0

48 Hour LC50 : 16.2 %
95% fid. limits : 12.1 - 21.6 %
Comments :

SLOPE of Mortality Curve : 5.4
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03900626

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 9.0 O2 ppm 9.0 Cond. 290 Temp(C) 21.0	8.3 8.5 298 21.0	8.3 8.5 298 21.0
50	pH 8.6 O2 ppm 9.0 Cond. 295 Temp(C) 21.0	8.3 8.5 300 21.0	8.3 8.5 300 21.0
25	pH 8.4 O2 ppm 9.0 Cond. 301 Temp(C) 21.0	8.3 8.5 301 21.0	8.3 8.5 301 21.0
13	pH 8.3 O2 ppm 9.0 Cond. 303 Temp(C) 21.0	8.2 8.5 302 21.0	8.2 8.5 302 21.0
6	pH 8.1 O2 ppm 9.0 Cond. 302 Temp(C) 21.0	8.1 8.4 302 21.0	8.1 8.4 302 21.0
Control	pH 8.2 O2 ppm 9.1 Cond. 300 Temp(C) 21.0	8.2 8.3 303 21.0	8.2 8.3 303 21.0

TOXICITY TEST REPORT Sample: 03900152

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : 60 inch Sewer, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 02/26/90
Received : 02/28/90
Tested : 02/28/90 at: 1535

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900152

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.8 O2 ppm 9.4 Cond. 115 Temp(C) 20.5	7.9 8.4 117 20.0	7.9 8.4 117 20.0
50	pH 8.5 O2 ppm 9.0 Cond. 221 Temp(C) 20.5	8.2 8.2 214 20.0	8.2 8.2 214 20.0
25	pH 8.5 O2 ppm 8.7 Cond. 260 Temp(C) 20.5	8.3 8.3 260 20.0	8.3 8.3 260 20.0
13	pH 8.5 O2 ppm 8.7 Cond. 279 Temp(C) 20.5	8.3 8.3 283 20.0	8.3 8.3 283 20.0
6	pH 8.4 O2 ppm 8.6 Cond. 294 Temp(C) 20.5	8.3 8.3 293 20.0	8.3 8.3 293 20.0
Control	pH 8.5 O2 ppm 8.8 Cond. 303 Temp(C) 20.5	8.4 8.1 311 20.0	8.4 8.1 311 20.0

TOXICITY TEST REPORT Sample: 02900089

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : 60 inch Sewer, (200)
Laboratory : MOE
Sampling Method : Grab
Sampled By : L. McCormack
Date Collected : 05/23/90
Received : 05/25/90
Tested : 05/25/90 at: 1100

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	24:00	48:00	%	%
100	0	0	0	0	1	1	8	
60	0	0	0	0	0	0	0	
30	0	0	0	0	2	2	16	
15	0	0	0	0	0	0	0	
5	0	0	0	0	0	0	0	
Control	0	0	0	0	0	0	0	

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 02900089

TEST CONC. % E L A P S E D T I M E
00:00 01:00 02:00 04:00 24:00 48:00

100	pH 7.7 O2 ppm 9.3 Cond. 110 Temp(C) 20.0	7.7 9.3 110 20.0	7.7 8.5 125 20.0			
60	pH 7.8 O2 ppm 9.1 Cond. 205 Temp(C) 20.0	7.8 9.1 205 20.0	7.7 8.5 225 20.0			
30	pH 7.8 O2 ppm 9.1 Cond. 265 Temp(C) 20.0	7.8 9.1 265 20.0	7.7 8.5 290 20.0			
15	pH 7.9 O2 ppm 8.9 Cond. 300 Temp(C) 20.0	7.9 8.9 300 20.0	7.8 8.5 330 20.0			
5	pH 7.8 O2 ppm 8.9 Cond. 320 Temp(C) 20.0	7.8 8.9 320 20.0	7.8 8.5 350 20.0			
Control	pH 7.8 O2 ppm 8.9 Cond. 310 Temp(C) 20.0	7.8 8.9 310 20.0	7.6 8.9 365 20.0			

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900534

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : 60 inch Sewer, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 06/25/90
Received : 06/27/90
Tested : 06/28/90 at: 1515

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	2	16
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900534

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH	8.0	7.9
	O2 ppm	9.1	9.0
	Cond.	108	112
	Temp(C)	20.5	20.5
50	pH	8.1	8.1
	O2 ppm	9.1	8.9
	Cond.	204	209
	Temp(C)	20.5	20.5
25	pH	8.1	8.2
	O2 ppm	9.0	8.9
	Cond.	250	255
	Temp(C)	20.5	20.5
13	pH	8.1	8.2
	O2 ppm	9.0	8.9
	Cond.	273	276
	Temp(C)	20.5	20.5
6	pH	8.1	8.2
	O2 ppm	9.0	8.9
	Cond.	286	289
	Temp(C)	20.5	20.5
Control	pH	8.1	8.2
	O2 ppm	9.0	8.9
	Cond.	299	298
	Temp(C)	20.5	20.5

TOXICITY TEST REPORT

Sample: 03900151

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : 30 inch Sewer, (300)

Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 02/26/90
Received : 02/28/90
Tested : 02/28/90 at: 1525

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol, OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900151

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.7 O2 ppm 9.3 Cond. 133 Temp(C) 20.0	7.9 8.2 135 20.0	7.9 8.2 135 20.0
50	pH 8.3 O2 ppm 9.0 Cond. 224 Temp(C) 20.0	8.2 8.1 225 20.0	8.2 8.1 225 20.0
25	pH 8.4 O2 ppm 9.0 Cond. 264 Temp(C) 20.0	8.3 8.1 263 20.0	8.3 8.1 263 20.0
13	pH 8.5 O2 ppm 8.9 Cond. 283 Temp(C) 20.0	8.3 8.0 283 20.0	8.3 8.0 283 20.0
6	pH 8.5 O2 ppm 8.8 Cond. 292 Temp(C) 20.0	8.3 7.8 293 20.0	8.3 7.8 293 20.0
Control	pH 8.5 O2 ppm 8.8 Cond. 303 Temp(C) 20.0	8.4 8.1 311 20.0	8.4 8.1 311 20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900535

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : 30 inch Sewer, (300)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 06/25/90
Received : 06/27/90
Tested : 06/28/90 at: 1520

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900535

TEST
CONC.
%
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.8 02 ppm 9.0 Cond. 143 Temp(C) 20.5	7.9 8.9 149 20.5
50	pH 8.0 02 ppm 9.0 Cond. 221 Temp(C) 20.5	8.1 9.0 226 20.5
25	pH 8.0 02 ppm 9.0 Cond. 259 Temp(C) 20.5	8.2 9.0 264 20.5
13	pH 8.1 02 ppm 9.0 Cond. 276 Temp(C) 20.5	8.2 8.9 280 20.5
6	pH 8.0 02 ppm 9.1 Cond. 288 Temp(C) 20.5	8.2 9.0 290 20.5
Control	pH 8.1 02 ppm 9.0 Cond. 299 Temp(C) 20.5	8.3 8.9 300 20.5

TOXICITY TEST REPORT Sample: 03890312

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)

Region : Northeast

Industry : Iron and Steel

Control point : Tube Mill, (400)

Laboratory : BAR

Sampling Method : Grab

Sampled By : B. Murray

Date Collected : 11/27/89

Received : 11/29/89

Tested : 11/30/89 at: 1145

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890312

TEST CONC. % E L A P S E D T I M E

00:00 24:00 48:00

100	pH	8.7	7.9
	O2 ppm	10.0	8.8
	Cond.	189	197
	Temp(C)	19.0	19.5
50	pH	8.5	8.2
	O2 ppm	9.5	9.0
	Cond.	251	258
	Temp(C)	19.0	19.5
25	pH	8.4	8.3
	O2 ppm	9.2	9.0
	Cond.	280	286
	Temp(C)	19.0	19.5
13	pH	8.4	8.3
	O2 ppm	9.2	9.1
	Cond.	295	300
	Temp(C)	19.0	19.5
6	pH	8.4	8.3
	O2 ppm	9.3	9.0
	Cond.	301	304
	Temp(C)	19.0	19.5
Control	pH	8.4	8.4
	O2 ppm	9.1	9.4
	Cond.	306	309
	Temp(C)	19.0	19.5

TOXICITY TEST REPORT Sample: 03890364

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Tube Mill, (400)
Laboratory : BAR
Sampling Method : Grab
Sampled By : R. King
Date Collected : 12/13/89
Received : 12/15/89
Tested : 12/16/89 at: 1240

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890364

TEST
CONC.
%

E L A P S E D T I M E

00:00 24:00 48:00

100	pH	8.3	8.0
	O2 ppm	10.9	8.8
	Cond.	222	223
	Temp(C)	20.0	19.0
50	pH	8.4	8.2
	O2 ppm	9.3	9.0
	Cond.	259	261
	Temp(C)	20.0	19.0
25	pH	8.5	8.3
	O2 ppm	9.1	9.1
	Cond.	278	280
	Temp(C)	20.0	19.0
13	pH	8.5	8.4
	O2 ppm	8.9	9.1
	Cond.	287	288
	Temp(C)	20.0	19.0
6	pH	8.4	8.3
	O2 ppm	8.9	9.1
	Cond.	289	294
	Temp(C)	20.0	19.0
Control	pH	8.5	8.4
	O2 ppm	8.7	9.1
	Cond.	297	300
	Temp(C)	20.0	19.0

TOXICITY TEST REPORT Sample: 03900070

TEST CONDITIONSCompany : Algoma Steel
Sault Ste. Marie, ONT
(40006)Region : Northeast
Industry : Iron and Steel

Control point : Tube Mill, (400)

Laboratory : BAR

Sampling Method : Grab

Sampled By : B. Murray

Date Collected : 01/22/90

Received : 01/25/90

Tested : 01/25/90 at: 1500

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)Test Animal : D. magna
Weight(gm) :
Length(mm) :MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	1	8
Control	0	1	1

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900070

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.9	7.9	7.8
	O2 ppm 9.1	9.1	8.1
	Cond. 131	131	135
	Temp(C) 20.0	20.0	20.5
50	pH 8.1	8.1	8.2
	O2 ppm 8.9	8.9	8.3
	Cond. 218	218	222
	Temp(C) 20.0	20.0	20.5
25	pH 8.1	8.1	8.3
	O2 ppm 8.7	8.7	8.4
	Cond. 262	262	263
	Temp(C) 20.0	20.0	20.5
13	pH 8.2	8.2	8.4
	O2 ppm 8.6	8.6	8.4
	Cond. 284	284	283
	Temp(C) 20.0	20.0	20.5
6	pH 8.2	8.2	8.4
	O2 ppm 8.7	8.7	8.4
	Cond. 294	294	296
	Temp(C) 20.0	20.0	20.5
Control	pH 8.2	8.2	8.4
	O2 ppm 8.5	8.5	8.4
	Cond. 299	299	299
	Temp(C) 20.0	20.0	20.5

TOXICITY TEST REPORT Sample: 03900149

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Tube Mill, (400)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 02/26/90
Received : 02/28/90
Tested : 02/28/90 at: 1500

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900149

TEST CONC. % E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.1	8.1	8.0
	O2 ppm 9.3	9.3	8.1
	Cond. 131	131	134
	Temp(C) 20.0	20.0	20.0
50	pH 8.4	8.4	8.2
	O2 ppm 9.1	9.1	8.1
	Cond. 221	221	223
	Temp(C) 20.0	20.0	20.0
25	pH 8.4	8.4	8.3
	O2 ppm 8.8	8.8	8.1
	Cond. 265	265	266
	Temp(C) 20.0	20.0	20.0
13	pH 8.5	8.5	8.3
	O2 ppm 8.8	8.8	8.0
	Cond. 285	285	285
	Temp(C) 20.0	20.0	20.0
6	pH 8.5	8.5	8.4
	O2 ppm 8.8	8.8	7.8
	Cond. 300	300	296
	Temp(C) 20.0	20.0	20.0
Control	pH 8.5	8.5	8.4
	O2 ppm 8.8	8.8	7.9
	Cond. 303	303	311
	Temp(C) 20.0	20.0	20.0

TOXICITY TEST REPORT Sample: 03900247

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(400006)
Region : Northeast
Industry : Iron and Steel
Control point : Tube Mill, (400)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 03/26/90
Received : 03/28/90
Tested : 03/28/90 at: 1450

Type of Bioassay : STATIC.
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	E L A P S E D	T I M E	TOTAL MORTALITY
		00:00	24:00 48:00	%
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900247

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.4 O2 ppm 9.4 Cond. 146 Temp(C) 19.5	8.1 8.9 157 20.0
50	pH 8.1 O2 ppm 9.4 Cond. 225 Temp(C) 19.5	8.1 8.8 219 20.0
25	pH 8.1 O2 ppm 9.1 Cond. 262 Temp(C) 19.5	8.2 8.6 267 20.0
13	pH 8.1 O2 ppm 9.1 Cond. 280 Temp(C) 19.5	8.2 8.7 284 20.0
6	pH 8.1 O2 ppm 9.1 Cond. 289 Temp(C) 19.5	8.2 8.7 300 20.0
Control	pH 8.1 O2 ppm 8.9 Cond. 301 Temp(C) 19.5	8.2 8.8 304 20.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900329

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Tube Mill, (400)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 04/23/90
Received : 04/25/90
Tested : 04/26/90 at: 1120

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900329

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.2	7.9
	O2 ppm 9.0	8.6
	Cond. 138	141
	Temp(C) 20.0	20.0
50	pH 8.4	8.1
	O2 ppm 9.0	8.7
	Cond. 220	220
	Temp(C) 20.0	20.0
25	pH 8.5	8.2
	O2 ppm 8.9	8.7
	Cond. 261	259
	Temp(C) 20.0	20.0
13	pH 8.5	8.3
	O2 ppm 8.8	8.6
	Cond. 281	278
	Temp(C) 20.0	20.0
6	pH 8.5	8.3
	O2 ppm 8.9	8.7
	Cond. 294	288
	Temp(C) 20.0	20.0
Control	pH 8.4	8.3
	O2 ppm 8.7	8.5
	Cond. 298	300
	Temp(C) 20.0	20.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 02900092

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Algoma Steel
: Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Tube Mill, (400)
Laboratory : MOE
Sampling Method : Grab
Sampled By : M. Smithson
Date Collected : 05/23/90
Received : 05/28/90
Tested : 05/28/90 at: 1000

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	24:00	48:00	%
100	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit; non-lethal

Sample Number: 02900092

TEST CONC. %
E L A P S E D T I M E
00:00 01:00 02:00 04:00 24:00 48:00

100	pH 7.7 O2 ppm 8.5 Cond. 160 Temp(C) 20.0	7.8 8.6 165 20.0
60	pH 7.8 O2 ppm 8.8 Cond. 230 Temp(C) 20.0	7.8 8.7 235 20.0
30	pH 7.8 O2 ppm 8.9 Cond. 270 Temp(C) 20.0	7.9 8.7 275 20.0
15	pH 7.8 O2 ppm 8.9 Cond. 290 Temp(C) 20.0	7.8 8.7 300 20.0
5	pH 7.8 O2 ppm 8.9 Cond. 305 Temp(C) 20.0	7.6 8.7 315 20.0
Control	pH 7.8 O2 ppm 9.2 Cond. 290 Temp(C) 20.0	7.7 8.7 295 20.0

TOXICITY TEST REPORT Sample: 03900424

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Tube Mill, (400)

Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 05/28/90
Received : 05/30/90
Tested : 05/31/90 at: 1130

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900424

TEST CONC. %

E L A P S E D T I M E

00:00 24:00 48:00

100	pH	8.1	7.9
	O2 ppm	9.1	8.5
	Cond.	167	166
	Temp(C)	20.5	20.5
50	pH	8.2	8.2
	O2 ppm	9.1	8.4
	Cond.	229	232
	Temp(C)	20.5	20.5
25	pH	8.3	8.3
	O2 ppm	9.0	8.3
	Cond.	262	265
	Temp(C)	20.5	20.5
13	pH	8.3	8.3
	O2 ppm	9.0	8.3
	Cond.	278	280
	Temp(C)	20.5	20.5
6	pH	8.4	8.3
	O2 ppm	9.0	8.3
	Cond.	289	290
	Temp(C)	20.5	20.5
Control	pH	8.3	8.3
	O2 ppm	8.9	8.3
	Cond.	296	296
	Temp(C)	20.5	20.5

TOXICITY TEST REPORT Sample: 03900536

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Tube Mill, (400)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 06/25/90
Received : 06/27/90
Tested : 06/28/90 at: 1530
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol, OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900536

TEST CONC.	E L A P S E D T I M E	
%	00:00	24:00
	48:00	

100	pH	7.7	7.8
	O2 ppm	9.0	8.7
	Cond.	134	141
	Temp(C)	20.5	20.5
50	pH	7.9	8.1
	O2 ppm	9.0	8.9
	Cond.	215	222
	Temp(C)	20.5	20.5
25	pH	8.0	8.2
	O2 ppm	9.0	9.0
	Cond.	254	262
	Temp(C)	20.5	20.5
13	pH	8.1	8.2
	O2 ppm	9.0	8.9
	Cond.	273	279
	Temp(C)	20.5	20.5
6	pH	8.1	8.2
	O2 ppm	9.0	9.0
	Cond.	288	291
	Temp(C)	20.5	20.5
Control	pH	8.1	8.3
	O2 ppm	9.0	8.9
	Cond.	299	302
	Temp(C)	20.5	20.5

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900627

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Tube Mill, (400)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 07/23/90
Received : 07/25/90
Tested : 07/25/90 at: 1605

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 24:00 48:00	%
100	0 0 2	16
50	0 0 2	16
25	0 2 2	16
13	0 1 1	8
6	0 0 0	0
Control	0 0 0	0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900627

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.0 02 ppm 9.1 Cond. 126 Temp(C) 21.0	21.0	7.9 8.4 128 21.0
50	pH 8.1 02 ppm 9.0 Cond. 215 Temp(C) 21.0	21.0	8.1 8.5 217 21.0
25	pH 8.1 02 ppm 9.0 Cond. 260 Temp(C) 21.0	21.0	8.2 8.5 261 21.0
13	pH 8.1 02 ppm 9.0 Cond. 280 Temp(C) 21.0	21.0	8.2 8.4 282 21.0
6	pH 8.1 02 ppm 9.0 Cond. 292 Temp(C) 21.0	21.0	8.2 8.5 294 21.0
Control	pH 8.2 02 ppm 9.1 Cond. 300 Temp(C) 21.0	21.0	8.2 8.2 302 21.0

TOXICITY TEST REPORT Sample: 03900148

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)

Region : Northeast
Industry : Iron and Steel

Control point : Cold Mill 24 inch, (500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 02/26/90
Received : 02/28/90
Tested : 02/28/90 at: 1450

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	1	8
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900148

TEST CONC. %

E L A P S E D T I M E

00:00 24:00 48:00

100	pH 7.9	8.0
	O2 ppm 9.3	8.1
	Cond. 112	115
	Temp(C) 20.0	20.0
50	pH 8.3	8.2
	O2 ppm 9.0	8.0
	Cond. 212	214
	Temp(C) 20.0	20.0
25	pH 8.5	8.3
	O2 ppm 8.9	8.0
	Cond. 261	262
	Temp(C) 20.0	20.0
13	pH 8.5	8.4
	O2 ppm 8.9	7.9
	Cond. 284	284
	Temp(C) 20.0	20.0
6	pH 8.5	8.2
	O2 ppm 8.9	8.0
	Cond. 292	296
	Temp(C) 20.0	20.0
Control	pH 8.5	8.4
	O2 ppm 8.8	7.7
	Cond. 303	311
	Temp(C) 20.0	20.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 02900097

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Cold Mill 24 inch, (500)
Laboratory : MOE
Sampling Method : Grab
Sampled By : M. Smithson
Date Collected : 05/23/90
Received : 05/28/90
Tested : 05/28/90 at: 1000

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	24:00	48:00	%
100	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : MISA Audit; Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 02900097

TEST CONC. %	E L A P S E D T I M E			
	00:00	01:00	02:00	04:00 24:00 48:00
100	pH 7.7 O2 ppm 9.0 Cond. 110 Temp(C) 20.0			7.7 8.6 135 20.0
60	pH 7.8 O2 ppm 9.0 Cond. 200 Temp(C) 20.0			7.8 8.6 205 20.0
30	pH 7.8 O2 ppm 8.9 Cond. 260 Temp(C) 20.0			7.7 8.6 265 20.0
15	pH 7.9 O2 ppm 8.9 Cond. 285 Temp(C) 20.0			7.8 8.6 295 20.0
5	pH 7.9 O2 ppm 8.9 Cond. 300 Temp(C) 20.0			7.7 8.6 310 20.0
Control	pH 7.8 O2 ppm 8.9 Cond. 275 Temp(C) 20.0			7.6 8.6 300 20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900537

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Cold Mill 24 inch, (500)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 06/25/90
Received : 06/27/90
Tested : 06/28/90 at: 1535

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 24:00 48:00	%
100	0 0 0	0
50	0 0 0	0
25	0 0 0	0
13	0 0 0	0
6	0 0 0	0
Control	0 0 0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900537

TEST CONC. % E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.8 O2 ppm 9.1 Cond. 106 Temp(C) 20.5	7.8 8.8 114 20.5	20.5	20.5	48:00
50	pH 8.0 O2 ppm 9.1 Cond. 199 Temp(C) 20.5	8.1 8.9 207 20.5	8.1 8.9 207 20.5	20.5	48:00
25	pH 8.1 O2 ppm 9.1 Cond. 246 Temp(C) 20.5	8.2 9.0 253 20.5	8.2 9.0 253 20.5	20.5	48:00
13	pH 8.1 O2 ppm 9.0 Cond. 269 Temp(C) 20.5	8.2 9.0 276 20.5	8.2 9.0 276 20.5	20.5	48:00
6	pH 8.1 O2 ppm 9.0 Cond. 284 Temp(C) 20.5	8.2 8.9 288 20.5	8.2 8.9 288 20.5	20.5	48:00
Control	pH 8.1 O2 ppm 9.0 Cond. 299 Temp(C) 20.5	8.3 8.9 300 20.5	8.3 8.9 300 20.5	20.5	48:00

TOXICITY TEST REPORT Sample: 03890313

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Terminal Settling Basin, (700)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 11/27/89
Received : 11/29/89
Tested : 11/30/89 at: 1150

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol, OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. Limits : 0.0 - 0.0 %
Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890313

TEST CONC. % E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.6 O2 ppm 9.9 Cond. 202 Temp(C) 19.0	7.6 9.9 202 19.0	7.6 8.5 205 19.5
50	pH 8.1 O2 ppm 9.4 Cond. 255 Temp(C) 19.0	8.1 9.4 255 19.0	8.1 8.9 261 19.5
25	pH 8.3 O2 ppm 9.2 Cond. 282 Temp(C) 19.0	8.3 9.2 282 19.0	8.2 9.0 288 19.5
13	pH 8.3 O2 ppm 9.2 Cond. 295 Temp(C) 19.0	8.3 9.2 295 19.0	8.3 9.0 300 19.5
6	pH 8.3 O2 ppm 9.3 Cond. 303 Temp(C) 19.0	8.3 9.3 303 19.0	8.3 9.1 302 19.5
Control	pH 8.4 O2 ppm 9.1 Cond. 306 Temp(C) 19.0	8.4 9.1 306 19.0	8.4 9.3 308 19.5

TOXICITY TEST REPORT Sample: 03890365

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel

Control point : Terminal Settling Basin, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : R. King
Date Collected : 12/13/89
Received : 12/15/89
Tested : 12/16/89 at: 1240

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. ONE, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	1	2
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100%

TOXICITY TEST PARAMETERS

Sample Number: 03890365

TEST CONC.	E L A P S E D T I M E	
%	00:00	24:00 48:00
100	pH 8.5 O2 ppm 10.3 Cond. 172 Temp(C) 20.0	7.8 7.8 178 19.0
50	pH 8.5 O2 ppm 9.4 Cond. 234 Temp(C) 20.0	8.2 8.6 240 19.0
25	pH 8.5 O2 ppm 9.1 Cond. 264 Temp(C) 20.0	8.3 8.8 268 19.0
13	pH 8.5 O2 ppm 9.0 Cond. 280 Temp(C) 20.0	8.3 8.9 282 19.0
6	pH 8.5 O2 ppm 9.0 Cond. 286 Temp(C) 20.0	8.3 9.0 289 19.0
Control	pH 8.5 O2 ppm 8.7 Cond. 297 Temp(C) 20.0	8.4 9.0 299 19.0

TOXICITY TEST REPORT Sample: 039000071

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Terminal Settling Basin, (700)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 01/22/90
Received : 01/25/90
Tested : 01/25/90 at: 1515

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 24:00 48:00	%
100	0 0 1	8
50	0 0 0	0
25	0 0 0	0
13	0 0 0	0
6	0 0 0	0
Control	0 0 0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 039000071

TEST CONC. % E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.7 O2 ppm 9.1 Cond. 198 Temp(C) 20.0	7.8 8.1 198 20.5
50	pH 8.0 O2 ppm 8.9 Cond. 251 Temp(C) 20.0	8.2 8.3 251 20.5
25	pH 8.1 O2 ppm 8.7 Cond. 277 Temp(C) 20.0	8.3 8.3 276 20.5
13	pH 8.2 O2 ppm 8.6 Cond. 290 Temp(C) 20.0	8.3 8.4 289 20.5
6	pH 8.1 O2 ppm 8.6 Cond. 296 Temp(C) 20.0	8.4 8.4 298 20.5
Control	pH 8.2 O2 ppm 8.5 Cond. 299 Temp(C) 20.0	8.4 8.4 296 20.5

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900153

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Terminal Settling Basin, (700)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 02/26/90
Received : 02/28/90 at: 1550
Tested : 02/28/90

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900153

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.8 O2 ppm 9.4 Cond. 200 Temp(C) 20.5	7.8 9.4 200 20.5	7.7 7.8 201 20.0
50	pH 8.3 O2 ppm 9.3 Cond. 251 Temp(C) 20.5	8.3 9.3 251 20.5	8.1 8.0 255 20.0
25	pH 8.4 O2 ppm 9.0 Cond. 291 Temp(C) 20.5	8.4 9.0 291 20.5	8.2 8.1 279 20.0
13	pH 8.4 O2 ppm 9.0 Cond. 290 Temp(C) 20.5	8.4 9.0 290 20.5	8.3 8.2 292 20.0
6	pH 8.5 O2 ppm 8.9 Cond. 296 Temp(C) 20.5	8.5 8.9 296 20.5	8.3 8.1 297 20.0
Control	pH 8.5 O2 ppm 8.8 Cond. 303 Temp(C) 20.5	8.5 8.8 303 20.5	8.4 8.1 311 20.0

TOXICITY TEST REPORT Sample: 03900248

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Terminal Settling Basin, (700)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 03/26/90
Received : 03/28/90
Tested : 03/28/90 at: 1530

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 24:00 48:00	%
100	0 0 0	0
50	0 0 0	0
25	0 0 0	0
13	0 0 0	0
6	0 0 0	0
Control	0 0 0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900248

TEST CONC. %	E L A P S E D T I M E
	00:00 24:00 48:00
100	pH 8.1 8.1 7.9 O2 ppm 9.7 9.7 8.0 Cond. 190 190 194 Temp(C) 19.5 19.5 20.0
50	pH 8.0 8.0 8.0 O2 ppm 9.5 9.5 8.5 Cond. 244 244 249 Temp(C) 19.5 19.5 20.0
25	pH 8.1 8.1 8.1 O2 ppm 9.2 9.2 8.7 Cond. 272 272 275 Temp(C) 19.5 19.5 20.0
13	pH 8.1 8.1 8.2 O2 ppm 9.1 9.1 8.7 Cond. 286 286 291 Temp(C) 19.5 19.5 20.0
6	pH 8.0 8.0 8.2 O2 ppm 9.2 9.2 8.9 Cond. 290 290 299 Temp(C) 19.5 19.5 20.0
Control	pH 8.1 8.1 8.3 O2 ppm 8.9 8.9 9.0 Cond. 301 301 309 Temp(C) 19.5 19.5 20.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900330

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Terminal Settling Basin, (700)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 04/23/90
Received : 04/25/90
Tested : 04/26/90 at: 1125

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. ONE, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900330

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.5 O2 ppm 9.2 Cond. 228 Temp(C) 20.0	7.5 9.2 228 20.0	20.0	19.5
50	pH 8.1 O2 ppm 9.1 Cond. 263 Temp(C) 20.0	8.1 9.1 263 20.0	20.0	19.5
25	pH 8.3 O2 ppm 9.1 Cond. 281 Temp(C) 20.0	8.3 9.1 281 20.0	20.0	19.5
13	pH 8.4 O2 ppm 9.1 Cond. 291 Temp(C) 20.0	8.4 9.1 291 20.0	20.0	19.5
6	pH 8.3 O2 ppm 9.2 Cond. 298 Temp(C) 20.0	8.3 9.2 298 20.0	20.0	19.5
Control	pH 8.4 O2 ppm 9.7 Cond. 298 Temp(C) 20.0	8.4 9.7 298 20.0	20.0	19.5

TOXICITY TEST REPORT Sample: 029000098

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Terminal Settling Basin, (700)
Laboratory : MOE
Sampling Method : Grab
Sampled By : M. Smithson
Date Collected : 05/28/90
Received : 05/31/90
Tested : 05/31/90 at: 1300

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	00:30	01:00	02:00	24:00	48:00
100	0	0	0	0	0	1
60	0	0	0	0	0	1
30	0	0	0	0	0	0
15	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	1
						8

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 029000098

TEST CONC. %	E L A P S E D T I M E				
	00:00	00:30	01:00	02:00	24:00 48:00
100	pH 6.8 O2 ppm 8.0 Cond. 185 Temp(C) 20.0				7.2 8.8 200 20.0
60	pH 7.3 O2 ppm 8.5 Cond. 240 Temp(C) 20.0				7.1 8.8 245 20.0
30	pH 7.6 O2 ppm 8.6 Cond. 275 Temp(C) 20.0				7.5 8.9 275 20.0
15	pH 7.7 O2 ppm 8.7 Cond. 295 Temp(C) 20.0				7.6 8.9 295 20.0
5	pH 7.8 O2 ppm 8.7 Cond. 300 Temp(C) 20.0				7.7 8.9 305 20.0
Control	pH 7.3 O2 ppm 8.9 Cond. 255 Temp(C) 20.0				7.8 8.8 315 20.0

TOXICITY TEST REPORT Sample: 03900425

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Terminal Settling Basin, (700)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 05/28/90
Received : 05/30/90
Tested : 05/31/90 at: 1135

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol, OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900425

TEST CONC. % E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.5 O2 ppm 9.0 Cond. 274 Temp(C) 20.5	7.6 8.4 273 20.5
50	pH 8.0 O2 ppm 9.1 Cond. 284 Temp(C) 20.5	8.0 8.5 284 20.5
25	pH 8.2 O2 ppm 9.0 Cond. 289 Temp(C) 20.5	8.2 8.5 290 20.5
13	pH 8.3 O2 ppm 9.0 Cond. 293 Temp(C) 20.5	8.2 8.5 294 20.5
6	pH 8.3 O2 ppm 9.0 Cond. 294 Temp(C) 20.5	8.2 8.5 295 20.5
Control	pH 8.3 O2 ppm 8.9 Cond. 296 Temp(C) 20.5	8.3 8.5 296 20.5

TOXICITY TEST REPORT Sample: 03900538

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Terminal Settling Basin, (700)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 06/25/90
Received : 06/27/90
Tested : 06/28/90 at: 1550
Type of Bioassay : STATIC.
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 24:00 48:00	%
100	0 0 0	0
50	0 0 0	0
25	0 0 0	0
13	0 0 0	0
6	0 0 0	0
Control	0 0 0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900538

TEST CONC. %	E L A P S E D T I M E
	00:00 24:00 48:00

100	pH 7.2	7.6
	O2 ppm 8.9	8.7
	Cond. 216	222
	Temp(C) 20.5	20.5
50	pH 7.7	8.0
	O2 ppm 9.0	8.8
	Cond. 255	261
	Temp(C) 20.5	20.5
25	pH 7.9	8.1
	O2 ppm 9.0	8.9
	Cond. 276	281
	Temp(C) 20.5	20.5
13	pH 8.0	8.2
	O2 ppm 9.0	8.9
	Cond. 285	290
	Temp(C) 20.5	20.5
6	pH 8.1	8.3
	O2 ppm 9.1	8.9
	Cond. 290	295
	Temp(C) 20.5	20.5
Control	pH 8.1	8.3
	O2 ppm 9.0	8.9
	Cond. 299	300
	Temp(C) 20.5	20.5

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900628

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)

Region : Northeast
Industry : Iron and Steel

Control point : Terminal Settling Basin, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 07/23/90
Received : 07/25/90
Tested : 07/26/90 at: 940

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

Sample Number: 03900628

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.2	7.3	7.3
	O2 ppm 9.1	8.3	8.3
	Cond. 263	260	260
	Temp(C) 21.0	20.5	19.5
50	pH 7.8	7.9	7.9
	O2 ppm 9.1	8.8	8.8
	Cond. 280	279	279
	Temp(C) 21.0	20.5	19.5
25	pH 8.1	8.2	8.2
	O2 ppm 9.0	9.1	9.1
	Cond. 289	289	289
	Temp(C) 21.0	20.5	19.5
13	pH 8.2	8.3	8.3
	O2 ppm 9.0	9.0	9.0
	Cond. 295	294	294
	Temp(C) 21.0	20.5	19.5
6	pH 8.3	8.3	8.3
	O2 ppm 9.0	9.0	9.0
	Cond. 296	296	296
	Temp(C) 21.0	20.5	19.5
Control	pH 8.3	8.4	8.4
	O2 ppm 9.0	8.9	8.9
	Cond. 300	299	299
	Temp(C) 21.0	20.5	19.5

TOXICITY TEST REPORT Sample: 03900426

TEST CONDITIONS

Company : Algoma Steel
 : Sault Ste. Marie, ONT
 : (40006)
 Region : Northeast
 Industry : Iron and Steel
 Control point : Boiler House, (800)
 Laboratory : BAR
 : Grab
 Sampling Method : B. Murray
 Sampled By : 05/28/90
 Date Collected : 05/30/90
 Received : 05/31/90 at: 1415
 Tested

Type of Bioassay : STATIC
 (Daphnia magna Acute Lethality Toxicity
 Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	12	100
50	0	12	100
25	0	11	100
13	0	2	66
6	0	0	0
Control	0	0	0

48 Hour LC50 : 11.4 %

95% fid. limits : 9.0 - 14.4 %

Comments :

SLOPE of Mortality Curve : 5.6
 LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03900426

TEST E L A P S E D T I M E
 CONC. % 00:00 24:00 48:00

100	pH 8.0 7.8 O2 ppm 9.1 8.9 Cond. 113 112 Temp(C) 20.5 20.5
50	pH 8.2 8.1 O2 ppm 9.1 8.6 Cond. 207 212 Temp(C) 20.5 20.5
25	pH 8.2 8.2 O2 ppm 9.1 8.5 Cond. 251 257 Temp(C) 20.5 20.5
13	pH 8.2 8.3 O2 ppm 9.0 8.6 Cond. 270 282 Temp(C) 20.5 20.5
6	pH 8.2 8.3 O2 ppm 9.0 8.5 Cond. 284 293 Temp(C) 20.5 20.5
Control	pH 8.3 8.3 O2 ppm 8.9 8.4 Cond. 296 301 Temp(C) 20.5 20.5

TOXICITY TEST REPORT Sample: 03900539

TEST CONDITIONS

Company : Algoma Steel
 : Sault Ste. Marie, ONT
 (40006)
 Region : Northeast
 Industry : Iron and Steel
 Control point : Boiler House, (800)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : B. Murray
 Date Collected : 06/25/90
 Received : 06/27/90
 Tested : 06/29/90 at: 1110

Type of Bioassay : STATIC
 (Daphnia magna Acute Lethality Toxicity
 Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	2	16
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900539

TEST CONC. %	E L A P S E D T I M E	
	00:00	24:00 48:00
100	pH 8.1 O2 ppm 9.1 Cond. 105 Temp(C) 20.0	8.0 8.9 8.9 109 20.5 20.5
50	pH 8.4 O2 ppm 9.0 Cond. 200 Temp(C) 20.0	8.3 8.9 8.9 206 20.5 20.5
25	pH 8.4 O2 ppm 8.9 Cond. 246 Temp(C) 20.0	8.4 8.9 8.9 256 20.5 20.5
13	pH 8.5 O2 ppm 8.9 Cond. 266 Temp(C) 20.0	8.4 8.9 8.9 274 20.5 20.5
6	pH 8.5 O2 ppm 8.9 Cond. 281 Temp(C) 20.0	8.4 8.9 8.9 286 20.5 20.5
Control	pH 8.5 O2 ppm 8.9 Cond. 294 Temp(C) 20.0	8.5 8.8 8.8 299 20.5 20.5

TOXICITY TEST REPORT Sample: 03900150

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : #2 Steel Making CW, (1000)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 02/26/90
Received : 02/28/90
Tested : 02/28/90 at: 1510

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900150

TEST CONC.	E L A P S E D T I M E	
%	00:00	24:00 48:00

100	pH 7.9 O2 ppm 9.3 Cond. 120 Temp(C) 20.0	8.0 8.3 124 20.0
50	pH 8.3 O2 ppm 9.0 Cond. 216 Temp(C) 20.0	8.2 8.2 218 20.0
25	pH 8.5 O2 ppm 9.0 Cond. 261 Temp(C) 20.0	8.3 8.2 262 20.0
13	pH 8.5 O2 ppm 8.8 Cond. 284 Temp(C) 20.0	8.3 8.1 283 20.0
6	pH 8.5 O2 ppm 8.8 Cond. 293 Temp(C) 20.0	8.3 8.1 296 20.0
Control	pH 8.5 O2 ppm 8.8 Cond. 303 Temp(C) 20.0	8.4 8.0 311 20.0

TOXICITY TEST REPORT Sample: 02900094

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : #2 Steel Making CW, (1000)
Laboratory : MOE
Sampling Method : Grab
Sampled By : M. Smithson
Date Collected : 05/23/90
Received : 05/28/90
Tested : 05/28/90 at: 1100
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol, OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	24:00	48:00	%	
100	0	0	0	0	0	0	0	
60	0	0	0	0	0	0	0	
30	0	0	0	0	0	0	0	
15	0	0	0	0	0	0	0	
5	0	0	0	0	0	0	0	
Control	0	0	0	0	0	0	0	

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : MISA Audit; Non-lethal

Sample Number: 02900094

TEST CONC. %	E L A P S E D T I M E						
	00:00	01:00	02:00	04:00	24:00	48:00	
100	pH 7.6 O2 ppm 8.6 Cond. 120 Temp(C) 20.0						7.7 8.6 135 20.0
60	pH 7.7 O2 ppm 8.8 Cond. 210 Temp(C) 20.0						7.8 8.7 220 20.0
30	pH 7.7 O2 ppm 8.9 Cond. 260 Temp(C) 20.0						7.8 8.7 275 20.0
15	pH 7.6 O2 ppm 9.0 Cond. 290 Temp(C) 20.0						7.8 8.7 305 20.0
5	pH 7.7 O2 ppm 9.0 Cond. 305 Temp(C) 20.0						7.7 8.7 310 20.0
Control	pH 7.7 O2 ppm 8.9 Cond. 295 Temp(C) 20.0						7.6 8.7 295 20.0

TOXICITY TEST REPORT Sample: 03900540

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : #2 Steel Making CW, (1000)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 06/25/90
Received : 06/27/90
Tested : 06/29/90 at: 1155

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	1	8

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900540

TEST CONC. % E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.9	8.0
	O2 ppm 9.0	9.0
	Cond. 122	129
	Temp(C) 20.0	20.5
50	pH 8.3	8.2
	O2 ppm 9.0	9.0
	Cond. 207	215
	Temp(C) 20.0	20.5
25	pH 8.4	8.4
	O2 ppm 8.9	9.0
	Cond. 248	256
	Temp(C) 20.0	20.5
13	pH 8.4	8.4
	O2 ppm 8.9	9.0
	Cond. 269	275
	Temp(C) 20.0	20.5
6	pH 8.5	8.4
	O2 ppm 8.9	9.0
	Cond. 282	285
	Temp(C) 20.0	20.5
Control	pH 8.5	8.6
	O2 ppm 8.9	8.4
	Cond. 294	297
	Temp(C) 20.0	20.5

TOXICITY TEST REPORT Sample: 03900154

TEST CONDITIONS

Company : Algona Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Cold Mill 20 inch, (1500)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 02/26/90
Received : 02/28/90 at: 1600
Tested : 02/28/90
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900154

TEST CONC. %	E L A P S E D T I M E		
	00:00	24:00	48:00

100	pH 02 ppm Cond. Temp(C)	7.8 9.7 112 20.5	7.9 8.1 116 20.0
50	pH 02 ppm Cond. Temp(C)	8.3 9.3 212 20.5	8.2 8.0 215 20.0
25	pH 02 ppm Cond. Temp(C)	8.5 9.2 260 20.5	8.3 8.0 261 20.0
13	pH 02 ppm Cond. Temp(C)	8.5 9.1 279 20.5	8.3 8.1 283 20.0
6	pH 02 ppm Cond. Temp(C)	8.5 9.0 294 20.5	8.3 8.2 296 20.0
Control	pH 02 ppm Cond. Temp(C)	8.5 8.8 303 20.5	8.4 8.1 310 20.0

TOXICITY TEST REPORT Sample: 029000093

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Cold Mill 20 inch, (1500)
Laboratory : MOE
Sampling Method : Grab
Sampled By : M. Smithson
Date Collected : 05/23/90
Received : 05/28/90
Tested : 05/28/90 at: 1400

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	24:00 48:00	%
100	0	0	0	0	0	0
60	0	0	0	0	0	0
30	0	0	0	0	0	0
15	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit; Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 029000093

TEST CONC. % E L A P S E D T I M E
00:00 01:00 02:00 04:00 24:00 48:00

100	pH 7.6 O2 ppm 9.5 Cond. 110 Temp(C) 20.0	7.7 8.7 135 20.0
60	pH 7.7 O2 ppm 9.1 Cond. 205 Temp(C) 20.0	7.7 8.7 215 20.0
30	pH 7.8 O2 ppm 9.0 Cond. 260 Temp(C) 20.0	7.8 8.8 270 20.0
15	pH 7.8 O2 ppm 8.9 Cond. 285 Temp(C) 20.0	7.8 8.7 300 20.0
5	pH 7.8 O2 ppm 8.9 Cond. 300 Temp(C) 20.0	7.7 8.7 315 20.0
Control	pH 7.3 O2 ppm 8.9 Cond. 300 Temp(C) 20.0	7.6 8.6 280 20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900541

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Cold Mill 20 inch, (1500)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 06/25/90
Received : 06/27/90
Tested : 06/29/90 at: 1210

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol - OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	1
Control	0	1	1

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900541

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.9	8.0
	O2 ppm 9.1	9.1
	Cond. 103	110
	Temp(C) 20.0	20.5
50	pH 8.3	8.2
	O2 ppm 9.0	9.1
	Cond. 197	205
	Temp(C) 20.0	20.5
25	pH 8.4	8.3
	O2 ppm 9.0	9.1
	Cond. 242	249
	Temp(C) 20.0	20.5
13	pH 8.4	8.4
	O2 ppm 8.9	9.0
	Cond. 264	271
	Temp(C) 20.0	20.5
6	pH 8.4	8.4
	O2 ppm 8.9	9.0
	Cond. 278	284
	Temp(C) 20.0	20.5
Control	pH 8.5	8.5
	O2 ppm 8.9	8.7
	Cond. 294	296
	Temp(C) 20.0	20.5

TOXICITY TEST REPORT Sample: 03900155

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Coke Oven Condenser, (1600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 02/26/90
Received : 02/28/90
Tested : 02/28/90 at: 950

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	24:00	48:00	72:00
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900155

TEST CONC. %
E L A P S E D T I M E
24:00 48:00 72:00

100	pH 7.9	8.1
	O2 ppm 9.1	8.7
	Cond. 125	125
	Temp(C) 20.0	20.0
50	pH 8.3	8.3
	O2 ppm 9.0	8.6
	Cond. 218	217
	Temp(C) 20.0	20.0
25	pH 8.5	8.4
	O2 ppm 8.9	8.6
	Cond. 263	259
	Temp(C) 20.0	20.0
13	pH 8.5	8.4
	O2 ppm 8.9	8.6
	Cond. 282	285
	Temp(C) 20.0	20.0
6	pH 8.5	8.5
	O2 ppm 8.8	8.1
	Cond. 292	297
	Temp(C) 20.0	20.0
Control	pH 8.5	8.5
	O2 ppm 8.8	8.4
	Cond. 300	305
	Temp(C) 20.0	20.0

TOXICITY TEST REPORT Sample: 02900090

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Coke Oven Condenser, (1600)
Laboratory : MOE
Sampling Method : grab
Sampled By : L. McCormack
Date Collected : 05/23/90
Received : 05/25/90
Tested : 05/25/90 at: 1100

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. ONE, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	24:00	48:00		%
100	0	0	0	0	6	12		100
60	0	0	0	0	0	12		100
30	0	0	0	0	0	6		50
15	0	0	0	0	0	3		25
5	0	0	0	0	0	1		8
Control	0	0	0	0	0	1		8

48 Hour LC50 : 25.5 %
95% fid. limits : 18.3 - 34.4 %
Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 02900090

TEST CONC.	E L A P S E D T I M E						
%	00:00	01:00	02:00	04:00	24:00	48:00	
100	pH 7.8 O2 ppm 9.2 Cond. 130 Temp(C) 20.0						7.7 8.6 135 20.0
60	pH 7.9 O2 ppm 9.0 Cond. 215 Temp(C) 20.0						7.8 8.6 225 20.0
30	pH 7.9 O2 ppm 9.0 Cond. 270 Temp(C) 20.0						7.9 8.6 300 20.0
15	pH 8.0 O2 ppm 8.9 Cond. 300 Temp(C) 20.0						7.9 8.6 325 20.0
5	pH 7.9 O2 ppm 8.9 Cond. 320 Temp(C) 20.0						7.9 8.6 355 20.0
Control	pH 7.8 O2 ppm 8.8 Cond. 290 Temp(C) 20.0						7.8 8.6 355 20.0

TOXICITY TEST REPORT Sample: 03900542

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : Coke Oven Condenser, (1600)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 06/25/90
Received : 06/27/90
Tested : 06/29/90 at: 1215

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	16
25	0	0	0
13	0	0	0
6	0	0	16
Control	0	1	8

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900542

TEST CONC. % E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.0 O2 ppm 9.0 Cond. 110 Temp(C) 20.0	8.0 9.0 116 20.5 20.5	8.0 9.0 116 20.5 20.5
50	pH 8.3 O2 ppm 8.9 Cond. 201 Temp(C) 20.0	8.3 8.9 201 20.5 20.5	8.3 9.1 208 20.5 20.5
25	pH 8.4 O2 ppm 8.9 Cond. 245 Temp(C) 20.0	8.4 8.9 245 20.5 20.5	8.4 9.1 252 20.5 20.5
13	pH 8.4 O2 ppm 8.9 Cond. 265 Temp(C) 20.0	8.4 8.9 265 20.5 20.5	8.4 9.1 272 20.5 20.5
6	pH 8.4 O2 ppm 8.9 Cond. 279 Temp(C) 20.0	8.4 8.9 279 20.5 20.5	8.4 9.1 284 20.5 20.5
Control	pH 8.5 O2 ppm 8.9 Cond. 294 Temp(C) 20.0	8.5 8.9 294 20.5 20.5	8.4 8.7 297 20.5 20.5

TOXICITY TEST REPORT Sample: 03890314

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : #2 Tube Mill, (1800)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 11/27/89
Received : 11/29/89
Tested : 11/30/89 at: 1115
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0 0	0
50	0	0 0	0
25	0	1 1	8
13	0	0 0	0
6	0	0 0	0
Control	0	0 0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100% effluent concentration

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890314

TEST CONC. %	E L A P S E D T I M E	
	00:00	24:00 48:00

100	pH	7.6	7.5
	02 ppm	10.0	8.2
	Cond.	148	150
	Temp(C)	19.0	19.5
50	pH	8.1	8.0
	02 ppm	9.4	8.5
	Cond.	232	230
	Temp(C)	19.0	19.5
25	pH	8.3	8.2
	02 ppm	9.2	8.7
	Cond.	270	269
	Temp(C)	19.0	19.5
13	pH	8.3	8.3
	02 ppm	9.2	8.8
	Cond.	288	287
	Temp(C)	19.0	19.5
6	pH	8.4	8.3
	02 ppm	9.3	9.0
	Cond.	300	301
	Temp(C)	19.0	19.5
Control	pH	8.4	8.4
	02 ppm	9.1	9.2
	Cond.	306	307
	Temp(C)	19.0	19.5

TOXICITY TEST REPORT Sample: 03890363

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : #2 Tube Mill, (1800)
Laboratory : BAR
Sampling Method : Grab
Sampled By : R. King
Date Collected : 12/13/89
Received : 12/15/89
Tested : 12/16/89 at: 1200

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890363

TEST CONC. % E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.0	8.1
	O2 ppm 10.7	8.8
	Cond. 178	180
	Temp(C) 20.0	19.0
50	pH 8.3	8.2
	O2 ppm 9.4	8.9
	Cond. 238	239
	Temp(C) 20.0	19.0
25	pH 8.4	8.3
	O2 ppm 9.0	9.0
	Cond. 267	268
	Temp(C) 20.0	19.0
13	pH 8.4	8.4
	O2 ppm 8.8	9.0
	Cond. 281	282
	Temp(C) 20.0	19.0
6	pH 8.4	8.4
	O2 ppm 8.8	8.9
	Cond. 288	289
	Temp(C) 20.0	19.0
Control	pH 8.5	8.4
	O2 ppm 8.7	9.2
	Cond. 297	301
	Temp(C) 20.0	19.0

TOXICITY TEST REPORT Sample: 03900072

TEST CONDITIONS

Company : Algoma Steel
 : Sault Ste. Marie, ONT
 : (40006)
Region : Northeast
Industry : Iron and Steel

Control point : #2 Tube Mill, (1800)

Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 01/22/90
Received : 01/25/90
Tested : 01/25/90 at: 1520

Type of Bioassay : STATIC
 : (Daphnia magna Acute Lethality Toxicity
 : Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	ELAPSED TIME	TOTAL MORTALITY
		00:00 24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900072

TEST CONC. %	ELAPSED TIME
	00:00 24:00 48:00
100	pH 7.7 7.9 O2 ppm 9.2 8.0 Cond. 166 168 Temp(C) 20.0 20.0 20.5
50	pH 8.1 8.2 O2 ppm 8.9 8.1 Cond. 236 236 Temp(C) 20.0 20.0 20.5
25	pH 8.1 8.3 O2 ppm 8.7 8.2 Cond. 270 269 Temp(C) 20.0 20.0 20.5
13	pH 8.1 8.3 O2 ppm 8.6 8.2 Cond. 286 285 Temp(C) 20.0 20.0 20.5
6	pH 8.2 8.4 O2 ppm 8.5 8.3 Cond. 293 295 Temp(C) 20.0 20.0 20.5
Control	pH 8.2 8.4 O2 ppm 8.5 8.4 Cond. 299 299 Temp(C) 20.0 20.0 20.5

TOXICITY TEST REPORT Sample: 03900147

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : #2 Tube Mill, (1800)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 02/26/90
Received : 02/28/90
Tested : 02/28/90 at: 1440

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	00:00	24:00	48:00	TOTAL MORTALITY
100	0	12	12		100
50	0	11	12		100
25	0	0	4		33
13	0	0	0		0
6	0	0	0		0
Control	0	0	0		0

48 Hour LC50 : 27.8 %

95% fid. limits : 22.3 - 34.7 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03900147

TEST CONC. % ELAPSED TIME
00:00 24:00 48:00

100	pH 7.9 O2 ppm 9.2 Cond. 116 Temp(C) 117	20.0	20.0	20.0
50	pH 8.3 O2 ppm 8.9 Cond. 214 Temp(C) 221	20.0	20.0	20.0
25	pH 8.4 O2 ppm 8.9 Cond. 261 Temp(C) 266	20.0	20.0	20.0
13	pH 8.5 O2 ppm 8.9 Cond. 284 Temp(C) 289	20.0	20.0	20.0
6	pH 8.5 O2 ppm 8.8 Cond. 299 Temp(C) 303	20.0	20.0	20.0
Control	pH 8.5 O2 ppm 8.8 Cond. 303 Temp(C) 313	20.0	20.0	20.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

Sample: 03900249

TOXICITY TEST REPORT

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : #2 Tube Mill, (1800)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 03/26/90
Received : 03/28/90
Tested : 03/28/90 at: 1540

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. ONE, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900249

TEST CONC. %	ELAPSED TIME	
	00:00	24:00 48:00
100	pH 7.7 O2 ppm 8.8 Cond. 129 Temp(C) 19.5	7.6 7.8 138 20.0
50	pH 7.9 O2 ppm 8.8 Cond. 218 Temp(C) 19.5	7.9 8.1 222 20.0
25	pH 8.0 O2 ppm 8.8 Cond. 259 Temp(C) 19.5	8.0 8.3 260 20.0
13	pH 8.0 O2 ppm 8.6 Cond. 282 Temp(C) 19.5	8.1 8.5 284 20.0
6	pH 8.1 O2 ppm 8.6 Cond. 294 Temp(C) 19.5	8.2 8.7 295 20.0
Control	pH 8.1 O2 ppm 8.9 Cond. 301 Temp(C) 19.5	8.2 8.9 306 20.0

TOXICITY TEST REPORT Sample: 03900331

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : #2 Tube Mill, (1800)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 04/23/90
Received : 04/25/90
Tested : 04/26/90 at: 1135

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 24:00 48:00	%
100	0 0 0	0
50	0 0 0	0
25	0 0 0	0
13	0 0 0	0
6	0 0 0	0
Control	0 0 0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900331

TEST CONC. %	E L A P S E D T I M E
	00:00 24:00 48:00
100	pH 7.8 7.7 O2 ppm 9.2 8.6 Cond. 133 128 Temp(C) 20.0 20.0 20.0
50	pH 8.3 8.1 O2 ppm 9.1 8.7 Cond. 218 214 Temp(C) 20.0 20.0 20.0
25	pH 8.4 8.2 O2 ppm 9.1 8.7 Cond. 261 256 Temp(C) 20.0 20.0 20.0
13	pH 8.4 8.3 O2 ppm 9.1 8.7 Cond. 282 275 Temp(C) 20.0 20.0 20.0
6	pH 8.4 8.3 O2 ppm 9.2 8.7 Cond. 295 287 Temp(C) 20.0 20.0 20.0
Control	pH 8.4 8.3 O2 ppm 8.7 8.5 Cond. 298 301 Temp(C) 20.0 20.0 20.0

TOXICITY TEST REPORT Sample: 03900368

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : #2 Tube Mill, (1800)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 05/07/90
Received : 05/09/90
Tested : 05/09/90 at: 1515
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900368

TEST CONC.	E L A P S E D T I M E	
%	00:00	24:00
100	pH 7.9 O2 ppm 8.8 Cond. 161 Temp(C) 19.0	7.9 8.7 165 19.5
50	pH 8.0 O2 ppm 8.7 Cond. 230 Temp(C) 19.0	8.2 8.8 234 19.5
25	pH 8.1 O2 ppm 8.8 Cond. 262 Temp(C) 19.0	8.3 8.8 269 19.5
13	pH 8.1 O2 ppm 8.7 Cond. 282 Temp(C) 19.0	8.3 8.9 286 19.5
6	pH 8.2 O2 ppm 8.7 Cond. 292 Temp(C) 19.0	8.3 8.8 298 19.5
Control	pH 8.3 O2 ppm 8.9 Cond. 299 Temp(C) 19.0	8.3 8.8 306 19.5

TOXICITY TEST REPORT Sample: 03900427

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : #2 Tube Mill, (1800)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 05/28/90
Received : 05/30/90
Tested : 05/31/90 at: 1435

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	E L A P S E D	T I M E	TOTAL MORTALITY	%
100	0	0	0	0	0
50	0	0	0	0	0
25	0	0	0	0	0
13	0	0	0	0	0
6	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900427

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.9 O2 ppm 9.1 Cond. 209 Temp(C) 20.5	7.9 9.1 209 20.5	7.9 8.2 215 20.5
50	pH 8.1 O2 ppm 9.1 Cond. 253 Temp(C) 20.5	8.1 9.1 253 20.5	8.1 8.3 260 20.5
25	pH 8.2 O2 ppm 9.1 Cond. 273 Temp(C) 20.5	8.2 9.1 273 20.5	8.2 8.4 281 20.5
13	pH 8.2 O2 ppm 9.1 Cond. 283 Temp(C) 20.5	8.2 9.1 283 20.5	8.2 8.4 292 20.5
6	pH 8.2 O2 ppm 9.0 Cond. 287 Temp(C) 20.5	8.2 9.0 287 20.5	8.3 8.4 298 20.5
Control	pH 8.3 O2 ppm 8.9 Cond. 296 Temp(C) 20.5	8.3 8.9 296 20.5	8.3 8.4 299 20.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 02900100

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(400066)
Region : Northeast
Industry : Iron and Steel
Control point : #2 Tube Mill, (1800)
Laboratory : MOE
Sampling Method : Grab
Sampled By : M. Smithson
Date Collected : 05/28/90
Received : 05/31/90
Tested : 05/31/90 at: 1400

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	00:30	01:00	02:00	24:00	48:00	%
100	0	0	0	0	0	0	0
60	0	0	0	0	0	1	8
30	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0
5	0	0	0	0	0	1	8
Control	0	0	0	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 02900100

TEST CONC. %

E L A P S E D T I M E					
00:00	00:30	01:00	02:00	24:00	48:00

100	pH	7.7	7.4
	02 ppm	8.5	8.7
	Cond.	175	180
	Temp(C)	20.0	20.0
60	pH	7.8	7.3
	02 ppm	8.7	8.7
	Cond.	230	205
	Temp(C)	20.0	20.0
30	pH	7.9	7.7
	02 ppm	8.7	8.8
	Cond.	270	230
	Temp(C)	20.0	20.0
15	pH	8.0	7.8
	02 ppm	8.7	8.8
	Cond.	295	255
	Temp(C)	20.0	20.0
5	pH	8.0	7.9
	02 ppm	8.8	8.8
	Cond.	305	275
	Temp(C)	20.0	20.0
Control	pH	8.0	7.9
	02 ppm	8.7	8.9
	Cond.	305	290
	Temp(C)	20.0	20.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900543

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : #2 Tube Mill, (1800)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 06/25/90
Received : 06/27/90
Tested : 06/28/90 at: 1110

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	00:00	24:00	48:00	TOTAL MORTALITY
100	0	0	0	0	0
50	0	0	0	0	0
25	0	0	0	0	0
13	0	0	0	0	0
6	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900543

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.9	7.8	7.8
	O2 ppm 9.1	8.5	8.5
	Cond. 160	168	168
	Temp(C) 20.5	20.0	20.5
50	pH 8.2	8.1	8.1
	O2 ppm 9.0	8.7	8.7
	Cond. 227	234	234
	Temp(C) 20.5	20.0	20.5
25	pH 8.3	8.2	8.2
	O2 ppm 8.9	8.8	8.8
	Cond. 259	265	265
	Temp(C) 20.5	20.0	20.5
13	pH 8.3	8.3	8.3
	O2 ppm 8.9	8.8	8.8
	Cond. 274	279	279
	Temp(C) 20.5	20.0	20.5
6	pH 8.4	8.3	8.3
	O2 ppm 8.9	8.8	8.8
	Cond. 284	288	288
	Temp(C) 20.5	20.0	20.5
Control	pH 8.4	8.4	8.4
	O2 ppm 8.9	8.5	8.5
	Cond. 293	297	297
	Temp(C) 20.5	20.0	20.5

TOXICITY TEST REPORT Sample: 03900625

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : #2 Tube Mill, (1800)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Murray
Date Collected : 07/23/90
Received : 07/25/90
Tested : 07/25/90 at: 1440
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	E L A P S E D	T I M E	TOTAL MORTALITY
		00:00	24:00 48:00	%
100	0	1	3	25
50	0	1	2	16
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900625

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH	7.9	7.9	7.9
	O2 ppm	9.1	9.1	8.3
	Cond.	204	204	207
	Temp(C)	21.0	21.0	21.0
50	pH	8.1	8.1	8.1
	O2 ppm	9.0	9.0	8.4
	Cond.	260	260	256
	Temp(C)	21.0	21.0	21.0
25	pH	8.1	8.1	8.1
	O2 ppm	9.0	9.0	8.6
	Cond.	278	278	280
	Temp(C)	21.0	21.0	21.0
13	pH	8.2	8.2	8.2
	O2 ppm	9.0	9.0	8.7
	Cond.	291	291	291
	Temp(C)	21.0	21.0	21.0
6	pH	8.2	8.2	8.2
	O2 ppm	9.1	9.1	8.8
	Cond.	298	298	302
	Temp(C)	21.0	21.0	21.0
Control	pH	8.2	8.2	8.3
	O2 ppm	9.1	9.1	8.2
	Cond.	300	300	302
	Temp(C)	21.0	21.0	21.0

TOXICITY TEST REPORT Sample: 02900096

TEST CONDITIONS

Company : Algoma Steel
Sault Ste. Marie, ONT
(40006)
Region : Northeast
Industry : Iron and Steel
Control point : 24 inch Coke Quench, (2000)
Laboratory : MOE
Sampling Method : Grab
Sampled By : M. Smithson
Date Collected : 05/23/90
Received : 05/28/90
Tested : 05/28/90 at: 1000

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	24:00 48:00	%
100	0	0	0	0	0	100
60	0	0	0	0	12	100
30	0	0	0	0	12	100
15	0	0	0	0	12	100
5	0	0	0	0	12	100
Control	0	0	0	0	0	0

48 Hour LC50 : 0.0 - 5.0 %

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 02900096

TEST CONC. %

E L A P S E D T I M E

00:00 01:00 02:00 04:00 24:00 48:00

100	pH 8.2	02 ppm 6.0	Cond. 330	Temp(C) 20.0	7.8	7.4	345	20.0
60	pH 8.1	02 ppm 8.0	Cond. 325	Temp(C) 20.0	7.8	8.1	335	20.0
30	pH 8.1	02 ppm 8.6	Cond. 320	Temp(C) 20.0	7.9	8.7	335	20.0
15	pH 8.0	02 ppm 8.8	Cond. 315	Temp(C) 20.0	7.9	8.7	335	20.0
5	pH 7.9	02 ppm 8.9	Cond. 310	Temp(C) 20.0	7.7	8.8	325	20.0
Control	pH 7.8	02 ppm 8.9	Cond. 285	Temp(C) 20.0	7.6	8.8	305	20.0

COMPANY: Atlas Specialty Steel, Welland
(1610005)
SECTOR: Iron and Steel
REGION: West Central

SUMMARY

The data for 24 acute lethality trout bioassays conducted on samples collected from the 42" sewer and Intake between November 1989 and October 1990 were submitted by Atlas Specialty Steel.

Ten of the twelve samples collected from the 42" sewer were determined to have been nonlethal to trout. The other two samples produced 96 h LC50s >100 %. An audit sample collected in January 1990 was not lethal to test fish. All twelve intake water samples were determined to have been not lethal to test fish.

42 inch Sewer

03890290	sampled: 11/22/89	non-lethal
	95% fid. limits: 0.0 - 0.0 %	
	comments: Non lethal	
03890380	sampled: 12/20/89	non-lethal
	95% fid. limits: 0.0 - 0.0 %	
	comments: Non-lethal	
01900003	sampled: 01/16/90	non-lethal
	95% fid. limits: 0.0 - 0.0 %	
	comments: MISA audit sample.	
03900068	sampled: 01/24/90	non-lethal
	95% fid. limits: 0.0 - 0.0 %	
	comments: Non-lethal	
03900159	sampled: 02/28/90	non-lethal
	95% fid. limits: 0.0 - 0.0 %	
	comments: Single Concentration Test--Non-lethal	
03900251	sampled: 03/28/90	non-lethal
	95% fid. limits: 0.0 - 0.0 %	
	comments: Single Concentration Test; Non lethal	
03900332	sampled: 04/25/90	non-lethal
	95% fid. limits: 0.0 - 0.0 %	
	comments: Non lethal; single concentration test	
03900420	sampled: 05/30/90	LC50: >100 %
	95% fid. limits: 0.0 - 0.0 %	
	comments: single concentration test; 5% mort. @ 100%	

Atlas Specialty Steel (continued)

03900531 sampled: 06/27/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single concetration test; non lethal

03900645 sampled: 07/31/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

03900741 sampled: 08/29/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration test; non-lethal

03900845 sampled: 09/26/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: Single Conc. Test; 5% mort.@ 100% eff. conc.

03900927 sampled: 10/24/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

Waste Acid Plant

North Plant Treatment

CEVAM

Waste Disposal Site

South Water Reclaim

Waste Well

McMaster Sewer Overflow

North Water Reclaim 42

#3 Building

Scale Pit

Rain Gauge

Intake Water

03890291 sampled: 11/22/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03890381 sampled: 12/20/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

Atlas Specialty Steel (continued)

03900069 sampled: 01/24/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900158 sampled: 02/28/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test--Non-lethal

03900252 sampled: 03/28/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; Non lethal

03900333 sampled: 04/25/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

03900421 sampled: 05/30/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single concentration test; non lethal

03900532 sampled: 06/27/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single concentration test; Non lethal

03900646 sampled: 07/31/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

03900740 sampled: 08/29/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900846 sampled: 09/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900928 sampled: 10/24/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

Compressors Reclaim

TOXICITY TEST REPORT Sample: 03890290

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : 42 inch Sewer, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 11/22/89
Received : 11/22/89
Tested : 11/23/89 at: 1600

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890290

TEST CONC. %	E L A P S E D T I M E					
	00:00	04:00	24:00	48:00	72:00	96:00

Control	pH	7.9					8.7
	O2 ppm	9.2					9.7
	Cond.	560					559
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.0
10	pH	7.9					8.6
	O2 ppm	8.8					9.9
	Cond.	556					541
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.0
20	pH	7.9					8.5
	O2 ppm	8.7					9.8
	Cond.	543					517
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.0
40	pH	7.9					8.4
	O2 ppm	8.6					9.8
	Cond.	534					516
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.0
65	pH	7.9					8.2
	O2 ppm	8.9					9.3
	Cond.	510					506
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.0
100	pH	7.9					8.0
	O2 ppm	8.9					9.3
	Cond.	480					479
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03890380

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel

Control point : 42 inch Sewer, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 12/20/89
Received : 12/20/89
Tested : 12/21/89 at: 1700

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890380

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.0 O2 ppm 11.1 Cond. 345 Temp(C) 15.0	14.0	14.0	14.0	8.2 9.6 349 14.0
65	pH 7.9 O2 ppm 10.5 Cond. 418 Temp(C) 15.0	14.0	14.0	14.0	8.4 9.2 420 14.0
40	pH 7.9 O2 ppm 10.1 Cond. 469 Temp(C) 15.0	14.0	14.0	14.0	8.4 8.5 470 14.0
20	pH 7.9 O2 ppm 9.7 Cond. 510 Temp(C) 15.0	14.0	14.0	14.0	8.4 9.2 507 14.0
10	pH 7.9 O2 ppm 9.4 Cond. 531 Temp(C) 15.0	14.0	14.0	14.0	8.4 9.1 504 14.0
5	pH 7.9 O2 ppm 9.5 Cond. 550 Temp(C) 15.0	14.0	14.0	14.0	8.4 8.3 508 14.0
Control	pH 7.8 O2 ppm 9.1 Cond. 570 Temp(C) 15.0	14.0	14.0	14.0	8.5 8.7 547 14.0

TOXICITY TEST REPORT Sample: 01900003

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : 42 inch Sewer, (100)
Laboratory : MOE
Sampling Method : grab
Sampled By : Mark Smithson
Date Collected : 01/16/90
Received : 01/18/90
Tested : 01/19/90 at: 1430

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E										TOTAL MORTALITY
%	00:00	01:10	01:00	02:00	04:00	22:10	44:00	74:10	96:00	%	
100	0	0	0	0	0	0	0	0	0	0	
65	0	0	0	0	0	0	0	0	0	0	
40	0	0	0	0	0	0	0	0	0	0	
30	0	0	0	0	0	0	0	0	0	0	
20	0	0	0	0	0	0	0	0	0	0	
10	0	0	0	0	0	0	0	0	0	0	
Control	0	0	0	0	0	0	0	0	0	0	

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA audit sample.

TOXICITY TEST PARAMETERS

Sample Number: 01900003

TEST E L A P S E D T I M E
CONC. % 00:00 01:10 01:00 02:00 04:00 22:10 44:00 74:10 96:00

100	pH O2 ppm Cond. Temp(C)	7.0 9.7 390 15.0	7.4 9.7 400 15.0	7.7 8.2 375 15.0	7.2 8.4 365 15.0	7.6 10.3 390 14.0	7.6 10.3 390 14.0
65	pH O2 ppm Cond. Temp(C)	7.4 9.7 350 15.0	7.4 9.7 350 15.0	7.9 9.8 340 15.0	7.7 10.4 320 15.0	7.6 10.3 350 14.0	7.6 10.3 350 14.0
40	pH O2 ppm Cond. Temp(C)	7.4 9.7 320 15.0	7.4 9.7 320 15.0	8.4 9.8 325 15.0	7.6 10.2 280 15.0	7.5 10.1 320 14.0	7.5 10.1 320 14.0
30	pH O2 ppm Cond. Temp(C)	7.4 9.5 300 15.0	7.4 9.5 300 15.0	7.9 9.8 290 15.0	7.5 9.9 285 15.0	7.3 9.8 300 14.0	7.3 9.8 300 14.0
20	pH O2 ppm Cond. Temp(C)	7.2 9.5 290 15.0	7.2 9.5 290 15.0	7.7 9.7 275 15.0	7.4 10.1 275 15.0	7.4 10.1 290 14.0	7.4 10.1 290 14.0
10	pH O2 ppm Cond. Temp(C)	7.2 9.7 275 15.0	7.2 9.7 275 15.0	7.8 10.0 240 15.0	7.5 10.2 265 15.0	7.4 10.1 275 14.0	7.4 10.1 275 14.0
Control	pH O2 ppm Cond. Temp(C)	7.1 9.8 245 15.0	7.1 9.8 245 15.0	7.9 10.0 260 15.0	7.4 10.4 240 15.0	7.2 10.2 255 14.0	7.2 10.2 255 14.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900068

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : 42 inch Sewer, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 01/24/90
Received : 01/24/90
Tested : 01/25/90 at: 1700

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900068

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00
100	pH 8.1 O2 ppm 9.6 Cond. 468 Temp(C) 15.0	14.5	14.5	14.5	8.1 10.1 472 15.0
65	pH 8.0 O2 ppm 9.5 Cond. 490 Temp(C) 15.0	14.5	14.5	14.5	8.2 10.0 594 15.0
40	pH 8.0 O2 ppm 9.4 Cond. 508 Temp(C) 15.0	14.5	14.5	14.5	8.3 10.0 513 15.0
20	pH 8.0 O2 ppm 9.0 Cond. 524 Temp(C) 15.0	14.5	14.5	14.5	8.5 10.1 519 15.0
10	pH 7.9 O2 ppm 8.9 Cond. 533 Temp(C) 15.0	14.5	14.5	14.5	8.4 10.2 507 15.0
5	pH 7.9 O2 ppm 8.8 Cond. 538 Temp(C) 15.0	14.5	14.5	14.5	8.4 10.1 522 15.0
Control	pH 7.9 O2 ppm 8.4 Cond. 541 Temp(C) 15.0	14.5	14.5	14.5	8.4 10.0 535 15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900159

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : 42 inch Sewer, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 02/28/90
Received : 02/28/90
Tested : 03/01/90 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test--Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900159

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 7.5 O2 ppm 9.2 Cond. 324 Temp(C) 15.0	14.5	14.5	14.0	14.0
100	pH 7.5 O2 ppm 9.2 Cond. 324 Temp(C) 15.0	14.5	14.5	14.0	14.0
Control	pH 7.9 O2 ppm 8.2 Cond. 544 Temp(C) 15.0	14.5	14.5	14.0	14.0
Control	pH 7.9 O2 ppm 8.2 Cond. 544 Temp(C) 15.0	14.5	14.5	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900251

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : 42 inch Sewer, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vate
Date Collected : 03/28/90
Received : 03/28/90
Tested : 03/29/90 at: 1535

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test; Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900251

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00 72:00 96:00

100	pH	8.0	8.0	8.2	
	O2 ppm	9.8	9.8	9.5	
	Cond.	351	351	355	
	Temp(C)	15.0	15.0	15.0	15.0
100	pH	8.0	8.0	8.1	
	O2 ppm	9.8	9.8	9.5	
	Cond.	351	351	351	
	Temp(C)	15.0	15.0	15.0	15.0
Control	pH	7.8	7.8	8.5	
	O2 ppm	9.2	9.2	9.9	
	Cond.	533	533	534	
	Temp(C)	15.0	15.0	15.0	15.0
Control	pH	7.8	7.8	8.5	
	O2 ppm	9.2	9.2	9.8	
	Cond.	533	533	532	
	Temp(C)	15.0	15.0	15.0	15.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900332

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : 42 inch Sewer, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 04/25/90
Received : 04/25/90
Tested : 04/26/90 at: 1005

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
100	0	0	0	0	0
Control	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal; single concentration test

TOXICITY TEST PARAMETERS

Sample Number: 03900332

TEST CONC.	E L A P S E D T I M E			
%	00:00	24:00	48:00	72:00 96:00
100	pH 8.1 O2 ppm 8.8 Cond. 477 Temp(C) 15.5	15.0	16.0	15.5
100	pH 8.1 O2 ppm 8.8 Cond. 477 Temp(C) 15.5	15.0	16.0	15.5
Control	pH 8.0 O2 ppm 9.0 Cond. 564 Temp(C) 15.5	15.0	16.0	15.5
Control	pH 8.0 O2 ppm 9.0 Cond. 564 Temp(C) 15.5	15.0	16.0	15.5

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900420

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : 42 inch Sewer, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 05/30/90
Received : 05/30/90
Tested : 05/31/90 at: 940

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	1	1	10
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : single concentration test; 5% mort. @ 100%

TOXICITY TEST PARAMETERS

Sample Number: 03900420

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00
100	pH	8.2			7.9
	O2 ppm	8.8			8.6
	Cond.	419			425
100	Temp(C)	15.0	15.5	15.0	15.5
					16.0
100	pH	8.2			7.9
	O2 ppm	8.8			8.7
	Cond.	419			423
Control	Temp(C)	15.0	15.5	15.0	15.5
					16.0
Control	pH	7.9			8.4
	O2 ppm	8.9			9.1
	Cond.	542			539
Control	Temp(C)	15.0	15.5	15.0	15.5
					16.0
Control	pH	7.9			8.4
	O2 ppm	8.9			9.0
	Cond.	542			539
Control	Temp(C)	15.0	15.5	15.0	15.5
					16.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900531

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : 42 inch Sewer, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 06/27/90
Received : 06/27/90
Tested : 06/28/90 at: 1045

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single concentration test; non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900531

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00
100	pH 8.2 O2 ppm 8.6 Cond. 325 Temp(C) 16.0	15.5	15.5	15.5	8.0 9.1 335 16.0
100	pH 8.2 O2 ppm 8.6 Cond. 325 Temp(C) 16.0	15.5	15.5	15.5	7.9 8.5 332 16.0
Control	pH 8.0 O2 ppm 9.3 Cond. 546 Temp(C) 16.0	15.5	15.5	15.5	8.4 9.2 535 16.0
Control	pH 8.0 O2 ppm 9.3 Cond. 546 Temp(C) 16.0	15.5	15.5	15.5	8.4 8.8 539 16.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900645

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : 42 inch Sewer, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 07/31/90
Received : 07/31/90
Tested : 08/01/90 at: 1050

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal; single concentration test

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900645

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.2 O2 ppm 8.9 Cond. 319 Temp(C) 15.5	15.5	15.5	15.0	15.5
100	pH 8.2 O2 ppm 8.9 Cond. 319 Temp(C) 15.5	15.5	15.5	15.0	15.5
Control	pH 7.9 O2 ppm 8.3 Cond. 534 Temp(C) 15.5	15.5	15.5	15.0	15.5
Control	pH 7.9 O2 ppm 8.3 Cond. 534 Temp(C) 15.5	15.5	15.5	15.0	15.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900741

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : 42 inch Sewer, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 08/29/90
Received : 08/29/90
Tested : 08/29/90 at: 1635

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration test; non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900741

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.1 O2 ppm 8.2 Cond. 311 Temp(C) 15.0	15.5	15.0	15.0	7.9 9.3 311 15.0
100	pH 8.1 O2 ppm 8.2 Cond. 311 Temp(C) 15.0	15.5	15.0	15.0	7.9 9.3 310 15.0
Control	pH 7.8 O2 ppm 7.6 Cond. 539 Temp(C) 15.0	15.5	15.0	15.0	7.8 9.0 332 15.0
Control	pH 7.8 O2 ppm 7.6 Cond. 539 Temp(C) 15.0	15.5	15.0	15.0	7.8 9.0 331 15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900845

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : 42 inch Sewer, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 09/26/90
Received : 09/26/90 at: 1530
Tested : 09/26/90

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	1	16
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : Single Conc. Test; 5% mort.@ 100% eff. conc.

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900845

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00

100	pH	8.1			7.9
	O2 ppm	8.6			9.5
	Cond.	312			319
	Temp(C)	15.0	15.5	15.0	15.5
100	pH	8.1			8.0
	O2 ppm	8.6			9.7
	Cond.	312			321
	Temp(C)	15.0	15.5	15.0	15.5
Control	pH	8.0			8.5
	O2 ppm	8.8			9.8
	Cond.	536			504
	Temp(C)	15.0	15.5	15.0	15.5
Control	pH	8.0			8.5
	O2 ppm	8.8			9.8
	Cond.	536			504
	Temp(C)	15.0	15.5	15.0	15.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900927

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel

Control point : 42 inch Sewer, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 10/24/90
Received : 10/24/90
Tested : 10/25/90 at: 1005

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test; non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900927

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.2 O2 ppm 8.9 Cond. 354 Temp(C) 15.5	15.0	14.0	14.0	7.9 9.0 357 15.0
100	pH 8.2 O2 ppm 8.9 Cond. 354 Temp(C) 15.5	15.0	14.0	14.0	8.0 9.3 358 15.0
Control	pH 7.9 O2 ppm 8.5 Cond. 536 Temp(C) 15.5	15.0	14.0	14.0	8.3 9.2 536 15.0
Control	pH 7.9 O2 ppm 8.5 Cond. 536 Temp(C) 15.5	15.0	14.0	14.0	8.5 8.4 534 15.0

TOXICITY TEST REPORT Sample: 03890291

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : Intake Water, (1100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 11/22/89
Received : 11/22/89
Tested : 11/23/89 at: 1600

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	1	10
20	0	0	0	0	0	0	0
40	0	0	0	0	0	1	10
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890291

TEST CONC. % E L A P S E D T I M E
00:00 04:00 24:00 48:00 72:00 96:00

Control	pH	7.9					8.6
	O2 ppm	9.3					9.6
	Cond.	561					568
	Temp(C)	14.5	14.5	14.5	14.5	14.5	15.0
10	pH	7.9					8.6
	O2 ppm	8.9					9.7
	Cond.	538					537
	Temp(C)	14.5	14.5	14.5	14.5	14.5	15.0
20	pH	8.0					8.5
	O2 ppm	9.2					9.6
	Cond.	515					518
	Temp(C)	14.5	14.5	14.5	14.5	14.5	15.0
40	pH	8.0					8.6
	O2 ppm	9.3					9.7
	Cond.	472					475
	Temp(C)	14.5	14.5	14.5	14.5	14.5	15.0
65	pH	8.0					8.4
	O2 ppm	9.5					9.7
	Cond.	414					420
	Temp(C)	14.5	14.5	14.5	14.5	14.5	15.0
100	pH	8.1					8.3
	O2 ppm	9.6					9.6
	Cond.	335					340
	Temp(C)	14.5	14.5	14.5	14.5	14.5	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890381

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : Intake Water, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 12/20/89
Received : 12/20/89
Tested : 12/21/89 at: 1700

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
65	0	0	0	0	0
40	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890381

TEST CONC.	E L A P S E D T I M E			
%	00:00	24:00	48:00	72:00 96:00
100	pH 8.1 O2 ppm 11.1 Cond. 319 Temp(C) 15.0	14.0	14.0	14.0 8.3 9.1 326 14.0
65	pH 8.0 O2 ppm 10.6 Cond. 401 Temp(C) 15.0	14.0	14.0	14.0 8.4 8.8 410 14.0
40	pH 7.9 O2 ppm 9.9 Cond. 457 Temp(C) 15.0	14.0	14.0	14.0 8.5 9.0 463 14.0
20	pH 7.9 O2 ppm 9.7 Cond. 505 Temp(C) 15.0	14.0	14.0	14.0 8.5 9.2 506 14.0
10	pH 7.9 O2 ppm 9.6 Cond. 523 Temp(C) 15.0	14.0	14.0	14.0 8.4 9.3 507 14.0
5	pH 7.9 O2 ppm 9.4 Cond. 532 Temp(C) 15.0	14.0	14.0	14.0 8.3 9.3 517 14.0
Control	pH 7.8 O2 ppm 9.1 Cond. 570 Temp(C) 15.0	14.0	14.0	14.0 8.4 8.7 537 14.0

TOXICITY TEST REPORT Sample: 03900069

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : Intake Water, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 01/24/90
Received : 01/24/90
Tested : 01/25/90 at: 1700

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	1	10
40	0	0	0	0	1	10
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	1	1	10
Control	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900069

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.1 O2 ppm 10.0 Cond. 329 Temp(C) 15.0	14.5	14.5	14.5	8.1 9.9 330 15.0
65	pH 8.0 O2 ppm 9.5 Cond. 406 Temp(C) 15.0	14.5	14.5	14.5	8.2 9.8 404 15.0
40	pH 7.9 O2 ppm 9.1 Cond. 455 Temp(C) 15.0	14.5	14.5	14.5	8.3 9.9 456 15.0
20	pH 7.9 O2 ppm 9.0 Cond. 497 Temp(C) 15.0	14.5	14.5	14.5	8.2 9.3 500 15.0
10	pH 7.9 O2 ppm 8.8 Cond. 517 Temp(C) 15.0	14.5	14.5	14.5	8.4 9.8 515 15.0
5	pH 7.9 O2 ppm 8.8 Cond. 528 Temp(C) 15.0	14.5	14.5	14.5	8.4 10.1 523 15.0
Control	pH 7.9 O2 ppm 8.6 Cond. 540 Temp(C) 15.0	14.5	14.5	14.5	8.4 10.1 530 15.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900158

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : Intake Water, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 02/28/90
Received : 02/28/90
Tested : 03/01/90 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test--Non-lethal

Sample Number: 03900158

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH 8.1 O2 ppm 10.2 Cond. 331 Temp(C) 15.0	14.5	14.5	14.0 7.8 9.3 345 14.0
100	pH 8.1 O2 ppm 10.2 Cond. 331 Temp(C) 15.0	14.5	14.5	14.0 8.0 9.6 344 14.0
Control	pH 7.9 O2 ppm 8.1 Cond. 544 Temp(C) 15.0	14.5	14.5	14.0 8.4 9.6 560 14.0
Control	pH 7.9 O2 ppm 8.1 Cond. 544 Temp(C) 15.0	14.5	14.5	14.0 8.4 9.6 549 14.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900252

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : Intake Water, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 03/28/90
Received : 03/28/90
Tested : 03/29/90 at: 940

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; Non lethal

Sample Number: 03900252

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00
100	pH 8.1 O2 ppm 11.0 Cond. 327 Temp(C) 15.0	14.5	15.0	14.5	8.1 9.4 351 14.5
100	pH 8.1 O2 ppm 11.0 Cond. 327 Temp(C) 15.0	14.5	15.0	14.5	8.1 9.3 341 14.5
Control	pH 7.9 O2 ppm 9.9 Cond. 539 Temp(C) 15.0	14.5	15.0	14.5	8.5 8.6 537 14.5
Control	pH 7.9 O2 ppm 9.9 Cond. 539 Temp(C) 15.0	14.5	15.0	14.5	8.4 8.7 543 14.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900333

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : Intake Water, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 04/25/90
Received : 04/25/90
Tested : 04/26/90 at: 1010

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish, OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal; single concentration test

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900333

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH	8.3			8.2
	O2 ppm	9.6			9.4
	Cond.	344			355
100	Temp(C)	15.5	15.0	16.0	15.5
	pH	8.3			7.9
	O2 ppm	9.6			9.0
Control	Cond.	344			354
	Temp(C)	15.5	15.0	16.0	15.5
	pH	8.0			8.3
Control	O2 ppm	9.1			9.5
	Cond.	563			542
	Temp(C)	15.5	15.0	16.0	15.5
Control	pH	8.0			8.3
	O2 ppm	9.1			9.3
	Cond.	563			551
Control	Temp(C)	15.5	15.0	16.0	15.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900421

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : Intake Water, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 05/30/90
Received : 05/30/90
Tested : 05/30/90 at: 1425

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single concentration test; non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900421

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH	8.2			8.3
	O2 ppm	9.6			8.2
	Cond.	319			328
100	Temp(C)	15.0	15.0	15.0	15.5
	pH	8.2			8.0
	O2 ppm	9.6			8.2
Control	Cond.	319			326
	Temp(C)	15.0	15.0	15.0	15.5
	pH	7.9			8.4
Control	O2 ppm	8.7			8.3
	Cond.	545			539
	Temp(C)	15.0	15.0	15.0	15.5
Control	pH	7.9			8.4
	O2 ppm	8.7			8.2
	Cond.	545			541
	Temp(C)	15.0	15.0	15.0	15.5

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900532

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : Intake Water, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 06/27/90
Received : 06/27/90
Tested : 06/28/90 at: 1050

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single concentration test; Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900532

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.2 O2 ppm 9.0 Cond. 311 Temp(C) 16.0	8.2 9.0 311 16.0	15.5 16.0	16.0	8.4 9.6 317 16.0
100	pH 8.2 O2 ppm 9.0 Cond. 311 Temp(C) 16.0	8.2 9.0 311 16.0	15.5 16.0	16.0	8.4 9.6 318 16.0
Control	pH 8.0 O2 ppm 9.3 Cond. 541 Temp(C) 16.0	8.0 9.3 541 16.0	15.5 16.0	16.0	8.3 8.4 538 16.0
Control	pH 8.0 O2 ppm 9.3 Cond. 541 Temp(C) 16.0	8.0 9.3 541 16.0	15.5 16.0	16.0	8.2 8.4 535 16.0

TOXICITY TEST REPORT Sample: 03900646

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : Intake Water, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 07/31/90
Received : 07/31/90
Tested : 08/01/90 at: 1115

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
100	0	0	0	0	0
Control	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal; single concentration test

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900646

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH 8.3 O2 ppm 9.0 Cond. 311 Temp(C) 15.5	15.5	15.5	15.5
100	pH 8.3 O2 ppm 9.0 Cond. 311 Temp(C) 15.5	15.5	15.5	15.5
Control	pH 7.8 O2 ppm 8.3 Cond. 536 Temp(C) 15.5	15.5	15.5	15.5
Control	pH 7.8 O2 ppm 8.3 Cond. 536 Temp(C) 15.5	15.5	15.5	15.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900740

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : Intake Water, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 08/29/90
Received : 08/29/90
Tested : 08/29/90 at: 1630

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test; non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900740

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH	8.0		8.3
	O2 ppm	8.1		9.2
	Cond.	327		537
	Temp(C)	15.5	15.5 15.0	15.0 15.0
100	pH	8.0		8.2
	O2 ppm	8.1		9.0
	Cond.	327		537
	Temp(C)	15.5	15.5 15.0	15.0 15.0
Control	pH	7.7		7.8
	O2 ppm	7.5		9.0
	Cond.	535		332
	Temp(C)	15.5	15.5 15.0	15.0 15.0
Control	pH	7.7		7.8
	O2 ppm	7.5		9.0
	Cond.	535		331
	Temp(C)	15.5	15.5 15.0	15.0 15.0

TOXICITY TEST REPORT Sample: 03900846

TEST CONDITIONS

Company : Atlas Specialty Steel
 : Welland, ONT
 : (1610005)
 Region : West Central
 Industry : Iron and Steel

Control point : Intake Water, (1100)

Laboratory : BAR
 Sampling Method : Grab
 Sampled By : E. Vale
 Date Collected : 09/26/90
 Received : 09/26/90
 Tested : 09/26/90 at: 1535

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900846

TEST E L A P S E D T I M E
 CONC. % 00:00 24:00 48:00 72:00 96:00

100	pH	8.2				8.1
	O2 ppm	9.1				9.7
	Cond.	307				312
	Temp(C)	15.0	15.5	15.0	15.5	15.5
100	pH	8.2				8.1
	O2 ppm	9.1				9.8
	Cond.	307				310
	Temp(C)	15.0	15.5	15.0	15.5	15.5
Control	pH	8.0				8.5
	O2 ppm	8.8				9.8
	Cond.	536				504
	Temp(C)	15.0	15.5	15.0	15.5	15.5
Control	pH	8.0				8.5
	O2 ppm	8.8				9.8
	Cond.	536				504
	Temp(C)	15.0	15.5	15.0	15.5	15.5

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900928

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : Intake Water, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 10/24/90
Received : 10/24/90
Tested : 10/25/90 at: 1010

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test; non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900928

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.2	8.2	8.0		
	O2 ppm 9.6	9.6	8.9		
	Cond. 322	322	330		
	Temp(C) 15.5	15.0	14.0	14.0	15.0
100	pH 8.2	8.2	8.2		
	O2 ppm 9.6	9.6	9.5		
	Cond. 322	322	333		
	Temp(C) 15.5	15.0	14.0	14.0	15.0
Control	pH 7.9	7.9	8.3		
	O2 ppm 8.5	8.5	9.2		
	Cond. 536	536	536		
	Temp(C) 15.5	15.0	14.0	14.0	15.0
Control	pH 7.9	7.9	8.5		
	O2 ppm 8.5	8.5	8.4		
	Cond. 536	536	534		
	Temp(C) 15.5	15.0	14.0	14.0	15.0

COMPANY: Atlas Specialty Steel, Welland
(1610005)
SECTOR: Iron and Steel
REGION: West Central

SUMMARY

Data for twenty-two *Daphnia magna* acute lethality toxicity tests conducted on samples of intake water (1100) and 42 inch sewer (100) effluent collected between November 1989 and September 1990 were submitted by Atlas Specialty Steel of Welland.

Six of eleven samples of intake water were not acutely lethal to *Daphnia*. Five remaining samples had LC50s > 100%.

Four samples of effluent from the 42 inch sewer were nonlethal, as was a Ministry audit sample collected in January. Two samples had LC50s > 100%. Four samples were toxic to *Daphnia* with LC50s between 25.5 and 95%.

42 inch Sewer

03890290 sampled: 11/22/89 LC50: 92.8 %
95% fid. limits: 74.2 - 115.8 % slope: 6.4
comments:

03890380 sampled: 12/20/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100%

02900003 sampled: 01/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit/Many floaters in all concentration

03900068 sampled: 01/24/90 LC50: 26.2 %
95% fid. limits: 17.5 - 39.3 % slope: 2.2
comments:

03900159 sampled: 02/28/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900251 sampled: 03/28/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900332 sampled: 04/25/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900420 sampled: 05/30/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

Atlas Specialty Steel (continued)

03900645	sampled: 07/31/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	
03900741	sampled: 08/29/90	LC50: 50.0 - 100.0 %
95% fid. limits:	0.0 -	0.0 %
comments:	LC50 Range	
03900845	sampled: 09/26/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:	LC50 >100	
03900927	sampled: 10/24/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:	LC50 >100	

Waste Acid Plant

North Plant Treatment

CEVAM

Waste Disposal Site

South Water Reclaim

Waste Well

McMaster Sewer Overflow

North Water Reclaim 42

#3 Building

Scale Pit

Rain Gauge

Intake Water

03890291	sampled: 11/22/89	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	
03890381	sampled: 12/20/89	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	
03900069	sampled: 01/24/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:	LC50 >100	

Atlas Specialty Steel (continued)

03900158	sampled: 02/28/90	LC50: >100 %
	95% fid. limits: 0.0 -	0.0 %
	comments: LC50 >100	
03900252	sampled: 03/28/90	non-lethal
	95% fid. limits: 0.0 -	0.0 %
	comments: Non-lethal	
03900333	sampled: 04/25/90	non-lethal
	95% fid. limits: 0.0 -	0.0 %
	comments: Non-lethal	
03900421	sampled: 05/30/90	non-lethal
	95% fid. limits: 0.0 -	0.0 %
	comments: Non-lethal	
03900532	sampled: 06/27/90	LC50: >100 %
	95% fid. limits: 0.0 -	0.0 %
	comments: LC50 >100	
03900646	sampled: 07/31/90	LC50: >100 %
	95% fid. limits: 0.0 -	0.0 %
	comments: LC50 >100	
03900740	sampled: 08/29/90	LC50: >100 %
	95% fid. limits: 0.0 -	0.0 %
	comments: LC50 >100	
03900846	sampled: 09/26/90	non-lethal
	95% fid. limits: 0.0 -	0.0 %
	comments: Non-lethal	
03900928	sampled: 10/24/90	LC50: 55.6 %
	95% fid. limits: 36.7 -	84.0 % slope: 2.8
	comments:	

Compressors Reclaim

TOXICITY TEST REPORT Sample: 03890290

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : 42 inch Sewer, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 11/22/89
Received : 11/22/89
Tested : 11/23/89 at: 1100
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	04:00 24:00 48:00	%
Control	0	0 0 0	0
6	0	0 0 0	0
13	0	0 0 0	0
25	0	0 0 0	0
50	0	0 0 0	0
100	0	0 0 7	58

48 Hour LC50 : 92.8 %

95% fid. limits : 74.2 - 115.8 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03890290

TEST CONC. %

E L A P S E D T I M E

00:00 04:00 24:00 48:00

Control	pH	8.5	8.5	8.5	8.5
	O2 ppm	8.6	9.1	9.1	9.1
	Cond.	298	297	297	297
	Temp(C)	20.0	20.0	20.0	20.0
6	pH	8.4	8.4	8.4	8.4
	O2 ppm	8.6	9.4	9.4	9.4
	Cond.	305	309	309	309
	Temp(C)	20.0	20.0	20.0	20.0
13	pH	8.4	8.4	8.3	8.3
	O2 ppm	8.6	9.4	9.4	9.4
	Cond.	352	322	322	322
	Temp(C)	20.0	20.0	20.0	20.0
25	pH	8.4	8.4	8.3	8.3
	O2 ppm	8.6	9.4	9.4	9.4
	Cond.	347	341	341	341
	Temp(C)	20.0	20.0	20.0	20.0
50	pH	8.2	8.2	8.2	8.2
	O2 ppm	8.6	9.3	9.3	9.3
	Cond.	388	382	382	382
	Temp(C)	20.0	20.0	20.0	20.0
100	pH	7.9	8.1	8.1	8.1
	O2 ppm	8.9	9.1	9.1	9.1
	Cond.	475	465	465	465
	Temp(C)	20.0	20.0	20.0	20.0

TOXICITY TEST REPORT Sample: 03890380

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : 42 inch Sewer, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 12/20/89
Received : 12/20/89
Tested : 12/21/89 at: 1130
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	0	1
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100%

TOXICITY TEST PARAMETERS

Sample Number: 03890380

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.1 O2 ppm 10.2 Cond. 340 Temp(C) 19.0	8.2 9.0 347 19.0	8.3 9.0 347 19.0
50	pH 8.2 O2 ppm 9.6 Cond. 321 Temp(C) 19.0	8.3 8.9 327 19.0	8.3 8.9 327 19.0
25	pH 8.2 O2 ppm 9.3 Cond. 312 Temp(C) 19.0	8.3 8.9 317 19.0	8.3 8.9 317 19.0
13	pH 8.3 O2 ppm 9.3 Cond. 308 Temp(C) 19.0	8.3 8.8 313 19.0	8.3 8.8 313 19.0
6	pH 8.4 O2 ppm 9.6 Cond. 307 Temp(C) 19.0	8.3 8.9 311 19.0	8.3 8.9 311 19.0
Control	pH 8.4 O2 ppm 9.6 Cond. 308 Temp(C) 19.0	8.3 8.7 310 19.0	8.3 8.7 310 19.0

MISA Daphnia

SLOPE of Mortality Curve : None
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 029000003

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : 42 inch Sewer, (100)
Laboratory : MOE
Sampling Method : Grab
Sampled By : Mark Smithson
Date Collected : 01/16/90
Received : 01/18/90
Tested : 01/18/90 at: 1023

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	01:00	24:00	48:00	%
100	0	0	0	0	0
60	0	0	0	0	0
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : MISA Audit/Many floaters in all concentration

TOXICITY TEST PARAMETERS

Sample Number: 029000003

TEST CONC. %	E L A P S E D T I M E			
	00:00	01:00	24:00	48:00
100	pH 7.6 O2 ppm 10.3 Cond. 476 Temp(C) 20.0	7.9 7.7 454 20.0	20.0	20.0
60	pH 7.8 O2 ppm 9.6 Cond. 413 Temp(C) 20.0	7.8 7.6 408 20.0	20.0	20.0
30	pH 7.9 O2 ppm 9.3 Cond. 364 Temp(C) 20.0	7.9 7.9 358 20.0	20.0	20.0
15	pH 7.9 O2 ppm 9.1 Cond. 337 Temp(C) 20.0	7.9 7.9 336 20.0	20.0	20.0
5	pH 8.0 O2 ppm 9.1 Cond. 320 Temp(C) 20.0	7.9 7.9 320 20.0	20.0	20.0
Control	pH 8.0 O2 ppm 9.1 Cond. 325 Temp(C) 20.0	7.8 8.0 325 20.0	20.0	20.0

MISA Daphnia

SLOPE of Mortality Curve : 2.2
LC50 Calculated By : Probit

TOXICITY TEST REPORT Sample: 039000068

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel

Control point : 42 inch Sewer, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 01/24/90
Received : 01/24/90
Tested : 01/25/90 at: 1100

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	5	100
50	0	0	75
25	0	0	41
13	0	1	8
6	0	1	16
Control	0	0	0

48 Hour LC50 : 26.2 %

95% fid. limits : 17.5 - 39.3 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 039000068

TEST CONC. %

E L A P S E D T I M E

00:00 24:00 48:00

100	pH 8.1	02 ppm 9.0	8.2
	Cond. 466		8.4
	Temp(C) 20.0	20.0	20.0
50	pH 8.3	02 ppm 8.9	8.3
	Cond. 377		8.4
	Temp(C) 20.0	20.0	382
25	pH 8.4	02 ppm 8.7	8.4
	Cond. 339		8.4
	Temp(C) 20.0	20.0	344
13	pH 8.4	02 ppm 8.6	8.4
	Cond. 321		8.4
	Temp(C) 20.0	20.0	324
6	pH 8.4	02 ppm 8.6	8.4
	Cond. 310		8.3
	Temp(C) 20.0	20.0	311
Control	pH 8.5	02 ppm 8.7	8.4
	Cond. 299		8.3
	Temp(C) 20.0	20.0	297

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900159

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : 42 inch Sewer, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 02/28/90
Received : 02/28/90
Tested : 03/01/90 at: 1050

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 24:00 48:00	%
100	0 1 6	50
50	0 3 3	25
25	0 2 5	41
13	0 0 0	0
6	0 0 0	0
Control	0 1 1	8

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900159

TEST CONC.	E L A P S E D T I M E
%	00:00 24:00 48:00
100	pH 7.7 8.1 02 ppm 8.9 8.5 Cond. 425 420 Temp(C) 20.0 20.0 20.5
50	pH 8.1 8.3 02 ppm 8.8 8.6 Cond. 365 362 Temp(C) 20.0 20.0 20.5
25	pH 8.3 8.4 02 ppm 8.7 8.6 Cond. 336 328 Temp(C) 20.0 20.0 20.5
13	pH 8.4 8.4 02 ppm 8.7 8.1 Cond. 320 316 Temp(C) 20.0 20.0 20.5
6	pH 8.4 8.4 02 ppm 8.7 8.6 Cond. 309 309 Temp(C) 20.0 20.0 20.5
Control	pH 8.5 8.5 02 ppm 8.8 9.0 Cond. 300 306 Temp(C) 20.0 20.0 20.5

TOXICITY TEST REPORT Sample: 03900251

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : 42 inch Sewer, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 03/28/90
Received : 03/28/90
Tested : 03/28/90 at: 1620
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900251

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.0	8.1
	O2 ppm 9.3	8.6
	Cond. 339	344
	Temp(C) 20.0	20.0
50	pH 8.0	8.1
	O2 ppm 9.1	8.7
	Cond. 320	321
	Temp(C) 20.0	20.0
25	pH 8.1	8.2
	O2 ppm 9.0	8.8
	Cond. 310	311
	Temp(C) 20.0	20.0
13	pH 8.0	8.2
	O2 ppm 9.1	8.7
	Cond. 305	309
	Temp(C) 20.0	20.0
6	pH 8.0	8.2
	O2 ppm 9.2	8.7
	Cond. 302	306
	Temp(C) 20.0	20.0
Control	pH 8.1	8.2
	O2 ppm 8.9	8.6
	Cond. 301	304
	Temp(C) 20.0	20.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900332

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : 42 inch Sewer, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 04/25/90
Received : 04/25/90
Tested : 04/26/90 at: 1145

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 24:00 48:00	%
100	0 0 0	0
50	0 1 1	8
25	0 0 0	0
13	0 0 0	0
6	0 0 0	0
Control	0 0 1	8

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900332

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.1 8.1 O2 ppm 9.1 8.7 Cond. 474 463 Temp(C) 20.0 20.0 20.0
50	pH 8.3 8.2 O2 ppm 9.1 8.7 Cond. 391 382 Temp(C) 20.0 20.0 20.0
25	pH 8.4 8.3 O2 ppm 9.0 8.8 Cond. 347 341 Temp(C) 20.0 20.0 20.0
13	pH 8.4 8.3 O2 ppm 9.1 8.8 Cond. 326 318 Temp(C) 20.0 20.0 20.0
6	pH 8.4 8.3 O2 ppm 9.2 8.7 Cond. 311 305 Temp(C) 20.0 20.0 20.0
Control	pH 8.4 8.3 O2 ppm 8.7 8.6 Cond. 298 301 Temp(C) 20.0 20.0 20.0

TOXICITY TEST REPORT Sample: 03900420

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : 42 inch sewer, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 05/30/90
Received : 05/30/90 at: 1535
Tested : 05/30/90

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	1	8

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900420

TEST CONC. %	E L A P S E D T I M E		
	00:00	24:00	48:00
100	pH 8.2 02 ppm 9.1 Cond. 406 Temp(C) 19.5	20.5	8.2 8.5 20.5
50	pH 8.3 02 ppm 9.0 Cond. 349 Temp(C) 19.5	20.5	8.1 8.6 349 20.5
25	pH 8.3 02 ppm 9.0 Cond. 321 Temp(C) 19.5	20.5	8.1 8.8 321 20.5
13	pH 8.3 02 ppm 9.0 Cond. 308 Temp(C) 19.5	20.5	8.2 8.5 307 20.5
6	pH 8.3 02 ppm 9.0 Cond. 300 Temp(C) 19.5	20.5	8.1 8.5 299 20.5
Control	pH 8.3 02 ppm 9.0 Cond. 298 Temp(C) 19.5	20.5	8.2 8.5 298 20.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900645

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel

Control point : 42 inch Sewer, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 07/31/90
Received : 07/31/90
Tested : 08/01/90 at: 1240

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 24:00 48:00	%
100	0 0 0	0
50	0 0 0	0
25	0 0 0	0
13	0 0 0	0
6	0 0 0	0
Control	0 0 0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900645

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.1 O2 ppm 9.0 Cond. 311 Temp(C) 20.0	8.1 9.0 311 20.5	8.1 8.8 316 20.5
50	pH 8.2 O2 ppm 9.0 Cond. 303 Temp(C) 20.0	8.2 9.0 303 20.5	8.2 8.9 310 20.5
25	pH 8.3 O2 ppm 9.0 Cond. 301 Temp(C) 20.0	8.3 9.0 301 20.5	8.3 9.0 306 20.5
13	pH 8.3 O2 ppm 9.0 Cond. 299 Temp(C) 20.0	8.3 9.0 299 20.5	8.3 9.0 306 20.5
6	pH 8.3 O2 ppm 9.0 Cond. 299 Temp(C) 20.0	8.3 9.0 299 20.5	8.3 9.0 307 20.5
Control	pH 8.4 O2 ppm 9.0 Cond. 302 Temp(C) 20.0	8.4 9.0 302 20.5	8.3 8.9 304 20.5

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900741

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : 42 inch Sewer, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 08/29/90
Received : 08/29/90
Tested : 08/29/90 at: 1625
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	6	7
50	0	0	1
25	0	0	0
13	0	0	0
6	0	1	1
Control	0	1	1
			8

48 Hour LC50 : 50.0 - 100.0 %

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 Range

TOXICITY TEST PARAMETERS

Sample Number: 03900741

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH	7.8	7.9
	O2 ppm	8.5	8.7
	Cond.	317	322
	Temp(C)	20.5	20.5
50	pH	8.0	8.1
	O2 ppm	8.8	8.9
	Cond.	310	313
	Temp(C)	20.5	20.5
25	pH	8.0	8.1
	O2 ppm	8.9	8.9
	Cond.	307	309
	Temp(C)	20.5	20.5
13	pH	8.0	8.2
	O2 ppm	8.9	8.9
	Cond.	307	307
	Temp(C)	20.5	20.5
6	pH	8.0	8.1
	O2 ppm	8.9	8.9
	Cond.	294	306
	Temp(C)	20.5	20.5
Control	pH	8.1	8.1
	O2 ppm	8.9	9.1
	Cond.	278	303
	Temp(C)	20.5	20.5

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900845

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : 42 inch Sewer, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 09/26/90
Received : 09/26/90 at: 1540
Tested

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D	T I M E	TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	3	3
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900845

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.0 O2 ppm 8.6 Cond. 307 Temp(C) 19.0	20.5	8.0 9.1 312 20.0
50	pH 8.2 O2 ppm 8.8 Cond. 303 Temp(C) 19.0	20.5	8.2 9.2 307 20.0
25	pH 8.3 O2 ppm 8.8 Cond. 300 Temp(C) 19.0	20.5	8.2 9.2 304 20.0
13	pH 8.3 O2 ppm 8.9 Cond. 303 Temp(C) 19.0	20.5	8.2 9.2 303 20.0
6	pH 8.4 O2 ppm 9.0 Cond. 300 Temp(C) 19.0	20.5	8.2 9.2 302 20.0
Control	pH 8.4 O2 ppm 9.0 Cond. 299 Temp(C) 19.0	20.5	8.2 9.1 301 20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900927

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel

Control point : 42 inch Sewer, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 10/24/90
Received : 10/24/90
Tested : 10/25/90 at: 1100

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol, OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	0	1
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900927

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.1 O2 ppm 9.2 Cond. 339 Temp(C) 20.5	8.1 9.2 339 20.5	8.1 9.0 346 20.0
50	pH 8.3 O2 ppm 9.0 Cond. 319 Temp(C) 20.5	8.3 9.0 319 20.5	8.3 9.0 326 20.0
25	pH 8.4 O2 ppm 9.0 Cond. 313 Temp(C) 20.5	8.4 9.0 313 20.5	8.3 9.0 317 20.0
13	pH 8.4 O2 ppm 8.9 Cond. 309 Temp(C) 20.5	8.4 8.9 309 20.5	8.3 9.0 312 20.0
6	pH 8.4 O2 ppm 8.9 Cond. 308 Temp(C) 20.5	8.4 8.9 308 20.5	8.4 9.0 311 20.0
Control	pH 8.5 O2 ppm 8.9 Cond. 304 Temp(C) 20.5	8.5 8.9 304 20.5	8.4 8.9 309 20.0

TOXICITY TEST REPORT Sample: 03890291

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : Intake Water, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 11/22/89
Received : 11/22/89
Tested : 11/23/89 at: 1110

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890291

TEST CONC.	E L A P S E D T I M E			
%	00:00	04:00	24:00	48:00

Control	pH	8.5	8.4	8.3
	O2 ppm	8.6	8.6	9.2
	Cond.	298	298	298
	Temp(C)	20.0	20.0	20.0
6	pH	8.4	8.4	8.3
	O2 ppm	8.6	8.6	9.2
	Cond.	301	302	302
	Temp(C)	20.0	20.0	20.0
13	pH	8.4	8.4	8.3
	O2 ppm	8.6	8.6	9.2
	Cond.	305	300	300
	Temp(C)	20.0	20.0	20.0
25	pH	8.4	8.4	8.3
	O2 ppm	8.6	8.6	9.2
	Cond.	304	302	302
	Temp(C)	20.0	20.0	20.0
50	pH	8.4	8.4	8.3
	O2 ppm	8.9	8.9	9.1
	Cond.	309	309	309
	Temp(C)	20.0	20.0	20.0
100	pH	8.2	8.2	8.2
	O2 ppm	9.7	9.7	9.0
	Cond.	325	320	320
	Temp(C)	20.0	20.0	20.0

TOXICITY TEST REPORT Sample: 03890381

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : Intake Water, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 12/20/89
Received : 12/20/89
Tested : 12/21/89 at: 1430
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890381

TEST CONC. %	E L A P S E D T I M E		
	00:00	24:00	48:00

100	pH 8.2	02 ppm 10.2	Cond. 321	Temp(C) 19.5	19.0	19.0
50	pH 8.3	02 ppm 9.6	Cond. 310	Temp(C) 19.5	19.0	19.0
25	pH 8.3	02 ppm 9.3	Cond. 307	Temp(C) 19.5	19.0	19.0
13	pH 8.3	02 ppm 9.2	Cond. 306	Temp(C) 19.5	19.0	19.0
6	pH 8.3	02 ppm 9.2	Cond. 306	Temp(C) 19.5	19.0	19.0
Control	pH 8.4	02 ppm 9.6	Cond. 308	Temp(C) 19.5	19.0	19.0

TOXICITY TEST REPORT Sample: 03900069

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : Intake Water, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 01/24/90
Received : 01/24/90
Tested : 01/25/90 at: 1120

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	1	8
50	0	0	0	0
25	0	0	1	8
13	0	0	0	0
6	0	1	1	8
Control	0	0	1	8

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900069

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH O2 ppm Cond. Temp(C)	8.2 9.3 323 20.0	8.3 8.6 322 20.0
50	pH O2 ppm Cond. Temp(C)	8.3 9.3 308 20.0	8.4 8.6 312 20.0
25	pH O2 ppm Cond. Temp(C)	8.4 8.9 305 20.0	8.4 8.6 307 20.0
13	pH O2 ppm Cond. Temp(C)	8.5 8.8 302 20.0	8.4 8.7 305 20.0
6	pH O2 ppm Cond. Temp(C)	8.5 8.8 301 20.0	8.4 8.6 305 20.0
Control	pH O2 ppm Cond. Temp(C)	8.5 8.7 299 20.0	8.4 8.5 301 20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900158

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : Intake Water, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 02/28/90
Received : 02/28/90
Tested : 03/01/90 at: 1020

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0 0	0
50	0	0 0	0
25	0	0 1	8
13	0	0 0	0
6	0	0 0	0
Control	0	0 0	0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900158

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.1 O2 ppm 8.9 Cond. 330 Temp(C) 20.0	8.3 8.8 327 20.5
50	pH 8.3 O2 ppm 8.8 Cond. 318 Temp(C) 20.0	8.4 8.7 314 20.5
25	pH 8.5 O2 ppm 8.8 Cond. 311 Temp(C) 20.0	8.4 8.8 308 20.5
13	pH 8.5 O2 ppm 8.8 Cond. 308 Temp(C) 20.0	8.5 8.7 306 20.5
6	pH 8.5 O2 ppm 8.8 Cond. 306 Temp(C) 20.0	8.5 8.7 304 20.5
Control	pH 8.5 O2 ppm 8.8 Cond. 300 Temp(C) 20.0	8.5 8.9 303 20.5

TOXICITY TEST REPORT Sample: 03900252

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : Intake Water, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 03/28/90
Received : 03/28/90
Tested : 03/28/90 at: 1630

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900252

TEST CONC. % E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.1 O2 ppm 9.2 Cond. 330 Temp(C) 19.5	20.0	8.1 8.7 333 20.0
50	pH 8.1 O2 ppm 9.1 Cond. 315 Temp(C) 19.5	20.0	8.2 8.7 317 20.0
25	pH 8.1 O2 ppm 9.0 Cond. 308 Temp(C) 19.5	20.0	8.1 8.8 313 20.0
13	pH 8.1 O2 ppm 9.1 Cond. 305 Temp(C) 19.5	20.0	8.2 8.8 309 20.0
6	pH 8.1 O2 ppm 9.1 Cond. 301 Temp(C) 19.5	20.0	8.2 8.8 306 20.0
Control	pH 8.1 O2 ppm 8.9 Cond. 301 Temp(C) 19.5	20.0	8.2 8.7 294 20.0

TOXICITY TEST REPORT Sample: 03900333

TEST CONDITIONSCompany : Atlas Specialty Steel
Welland, ONT
(1610005)Region : West Central
Industry : Iron and Steel

Control point : Intake Water, (1100)

Laboratory : BAR

Sampling Method : Grab

Sampled By : E. Vale

Date Collected : 04/25/90

Received : 04/25/90

Tested : 04/26/90 at: 1535

Type of Bioassay

: STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900333

TEST E L A P S E D T I M E
CONC. % 00:00 24:00 48:00

100	pH	8.3	8.2
	O2 ppm	9.1	8.9
	Cond.	342	343
	Temp(C)	20.0	20.0
50	pH	8.4	8.3
	O2 ppm	9.1	8.8
	Cond.	322	322
	Temp(C)	20.0	20.0
25	pH	8.4	8.3
	O2 ppm	9.2	8.7
	Cond.	314	312
	Temp(C)	20.0	20.0
13	pH	8.5	8.3
	O2 ppm	9.2	8.7
	Cond.	310	306
	Temp(C)	20.0	20.0
6	pH	8.4	8.3
	O2 ppm	9.2	8.7
	Cond.	309	304
	Temp(C)	20.0	20.0
Control	pH	8.4	8.3
	O2 ppm	8.7	8.6
	Cond.	298	301
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900421

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : Intake Water, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 05/30/90
Received : 05/30/90
Tested : 05/30/90 at: 1545

Type of Bioassay : STATIC.
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900421

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.3 O2 ppm 9.3 Cond. 314 Temp(C) 19.5	20.5	8.0 8.4 314 20.5
50	pH 8.3 O2 ppm 9.2 Cond. 303 Temp(C) 19.5	20.5	8.1 8.5 303 20.5
25	pH 8.4 O2 ppm 9.1 Cond. 297 Temp(C) 19.5	20.5	8.2 8.6 298 20.5
13	pH 8.4 O2 ppm 9.1 Cond. 294 Temp(C) 19.5	20.5	8.1 8.7 296 20.5
6	pH 8.4 O2 ppm 9.1 Cond. 296 Temp(C) 19.5	20.5	8.1 8.7 295 20.5
Control	pH 8.3 O2 ppm 9.0 Cond. 298 Temp(C) 19.5	20.5	8.1 9.0 294 20.5

TOXICITY TEST REPORT Sample: 03900532

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel

Control point : Intake Water, (1100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 06/27/90
Received : 06/27/90
Tested : 06/27/90 at: 1635

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00 24:00 48:00		%
100	0	0	0
50	0	0	0
25	0	1	8
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900532

TEST E L A P S E D T I M E
CONC. %
00:00 24:00 48:00

100	pH 8.0	8.0	8.0
	O2 ppm 9.1	9.1	8.4
	Cond. 308	308	310
	Temp(C) 20.5	21.0	20.5
50	pH 7.9	7.9	8.1
	O2 ppm 9.1	9.1	8.6
	Cond. 300	300	301
	Temp(C) 20.5	21.0	20.5
25	pH 7.9	7.9	8.2
	O2 ppm 9.1	9.1	8.6
	Cond. 294	294	297
	Temp(C) 20.5	21.0	20.5
13	pH 7.9	7.9	8.2
	O2 ppm 9.0	9.0	8.7
	Cond. 291	291	296
	Temp(C) 20.5	21.0	20.5
6	pH 7.9	7.9	8.2
	O2 ppm 8.9	8.9	8.7
	Cond. 295	295	295
	Temp(C) 20.5	21.0	20.5
Control	pH 8.0	8.0	8.2
	O2 ppm 9.0	9.0	8.9
	Cond. 294	294	295
	Temp(C) 20.5	21.0	20.5

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900646

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : Intake Water, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 07/31/90
Received : 07/31/90
Tested : 08/01/90 at: 1250

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	0	1
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900646

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.2 O2 ppm 9.0 Cond. 302 Temp(C) 20.0	8.2 9.0 302 20.5	8.1 9.0 306 20.5
50	pH 8.2 O2 ppm 9.0 Cond. 299 Temp(C) 20.0	8.2 9.0 299 20.5	8.2 9.0 299 20.5
25	pH 8.2 O2 ppm 9.0 Cond. 298 Temp(C) 20.0	8.2 9.0 298 20.5	8.3 8.9 297 20.5
13	pH 8.3 O2 ppm 9.0 Cond. 298 Temp(C) 20.0	8.3 9.0 298 20.5	8.3 8.9 297 20.5
6	pH 8.3 O2 ppm 9.0 Cond. 298 Temp(C) 20.0	8.3 9.0 298 20.5	8.3 8.9 296 20.5
Control	pH 8.4 O2 ppm 9.0 Cond. 302 Temp(C) 20.0	8.4 9.0 302 20.5	8.3 9.0 298 20.5

TOXICITY TEST REPORT Sample: 03900740

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : Intake Water, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 08/29/90
Received : 08/29/90
Tested : 08/29/90 at: 1615

Type of Bioassay : STATIC.
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	1	8
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900740

TEST CONC. % E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.0	7.9	
	O2 ppm 8.8	8.7	
	Cond. 296	302	
	Temp(C) 20.5	20.5	
50	pH 8.0	8.1	
	O2 ppm 8.9	8.8	
	Cond. 298	304	
	Temp(C) 20.5	20.5	
25	pH 8.0	8.1	
	O2 ppm 8.9	8.9	
	Cond. 288	304	
	Temp(C) 20.5	20.5	
13	pH 8.1	8.1	
	O2 ppm 8.9	8.9	
	Cond. 302	304	
	Temp(C) 20.5	20.5	
6	pH 8.1	8.2	
	O2 ppm 8.9	9.0	
	Cond. 284	307	
	Temp(C) 20.5	20.5	
Control	pH 8.1	8.1	
	O2 ppm 8.9	9.1	
	Cond. 278	304	
	Temp(C) 20.5	20.5	

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900846

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : Intake Water, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 09/26/90
Received : 09/26/90
Tested : 09/26/90 at: 1550

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900846

TEST CONC. % E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.2	8.1
	02 ppm 9.2	9.2
	Cond. 301	302
	Temp(C) 19.0	20.5 20.0
50	pH 8.2	8.2
	02 ppm 9.0	9.2
	Cond. 298	302
	Temp(C) 19.0	20.5 20.0
25	pH 8.3	8.2
	02 ppm 8.9	9.2
	Cond. 301	302
	Temp(C) 19.0	20.5 20.0
13	pH 8.3	8.3
	02 ppm 8.9	9.1
	Cond. 301	302
	Temp(C) 19.0	20.5 20.0
6	pH 8.3	8.3
	02 ppm 8.9	9.1
	Cond. 299	300
	Temp(C) 19.0	20.5 20.0
Control	pH 8.4	8.2
	02 ppm 9.0	9.1
	Cond. 299	300
	Temp(C) 19.0	20.5 20.0

TOXICITY TEST REPORT Sample: 03900928

TEST CONDITIONS

Company : Atlas Specialty Steel
Welland, ONT
(1610005)
Region : West Central
Industry : Iron and Steel
Control point : Intake Water, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : E. Vale
Date Collected : 10/24/90
Received : 10/24/90
Tested : 10/25/90 at: 1110

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol, OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	11	12	100
50	0	1	1	8
25	0	3	3	25
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : 55.6 %

95% fid. limits : 36.7 - 84.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03900928

TEST CONC. % E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.1	8.2
	O2 ppm 9.1	9.0
	Cond. 313	317
	Temp(C) 20.5	20.0
50	pH 8.3	8.2
	O2 ppm 9.1	9.0
	Cond. 308	312
	Temp(C) 20.5	20.0
25	pH 8.4	8.3
	O2 ppm 9.0	9.0
	Cond. 306	310
	Temp(C) 20.5	20.0
13	pH 8.4	8.4
	O2 ppm 8.9	9.0
	Cond. 305	308
	Temp(C) 20.5	20.0
6	pH 8.4	8.4
	O2 ppm 9.0	9.0
	Cond. 304	308
	Temp(C) 20.5	20.0
Control	pH 8.5	8.3
	O2 ppm 8.9	8.8
	Cond. 304	304
	Temp(C) 20.5	20.0

COMPANY: Dofasco, Hamilton
(1460005)
SECTOR: Iron and Steel
REGION: West Central

SUMMARY

The data for 58 acute lethality trout bioassays conducted on samples collected from six discharge locations between November 1989 and October 1990 were submitted by Dofasco. Dofasco voluntarily submitted data for toxicity tests conducted on samples of intake water (500). All samples were nonlethal to trout except for the November sample where the 96 h LC50 was 72.7 %.

All twelve samples collected from the East Boat Slip Sewer were not acutely lethal to trout. All thirteen samples collected from the Ottawa Street Sewer were determined nonlethal. Three of four Boiler House Sewer #1 effluents were nonlethal while the fourth produced a 96 h LC50 > 100 %. All four Boiler House #2 effluent samples were determined to have been nonlethal to test fish. Eleven of thirteen samples of West Bay Front Sewer effluent were not lethal to fish while the remaining two were lethal. 96 h LC50s were 51 % and 80.6 %. Seven samples collected for audit testing by the Ministry from the the East Boat Sewer, Ottawa Street Sewer, Boiler House #1, West Bay Front Sewer and Boiler House # 2 were tested and determined to have been nonlethal to test fish.

East Boat Slip Sewer

03890285 sampled: 11/21/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03890329 sampled: 12/12/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100%

03900061 sampled: 01/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900123 sampled: 02/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test--Non-lethal

03900206 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single concentration test; non-lethal

Dofasco (continued)

03900302 sampled: 04/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900388 sampled: 05/14/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

01900109 sampled: 06/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit; Non-lethal

03900493 sampled: 06/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900619 sampled: 07/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

03900706 sampled: 08/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900815 sampled: 09/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900917 sampled: 10/22/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; Non lethal

Ottawa Street Sewer

03890284 sampled: 11/21/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03890332 sampled: 12/12/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890333 sampled: 12/12/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900057 sampled: 01/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

Dofasco (continued)

03900124 sampled: 02/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test--Non-lethal

03900207 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single concentration test; non-lethal

03900301 sampled: 04/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900389 sampled: 05/14/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

01900107 sampled: 06/12/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900494 sampled: 06/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900620 sampled: 07/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

03900707 sampled: 08/20/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: Single Conc. Test; 10% mort. @ 100% eff. conc

03900816 sampled: 09/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900918 sampled: 10/22/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; Non lethal

Boiler House Sewer #1

03900058 sampled: 01/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900300 sampled: 04/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: non lethal

Dofasco (continued)

01900111 sampled: 06/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit; Non-lethal

01900130 sampled: 06/26/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900621 sampled: 07/23/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900919 sampled: 10/22/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

West Bay Front Sewer

03890283 sampled: 11/21/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03890330 sampled: 12/12/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900056 sampled: 01/23/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900125 sampled: 02/20/90 LC50: 51.0 %
95% fid. limits: 40.0 - 65.0 %
comments:

03900208 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900299 sampled: 04/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900390 sampled: 05/14/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

01900112 sampled: 06/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit; Non-lethal

Dofasco (continued)

03900495 sampled: 06/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900622 sampled: 07/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

03900708 sampled: 08/20/90 LC50: 80.6 %
95% fid. limits: 65.0 - 100.0 %
comments:

03900920 sampled: 10/22/90 LC50: 65.0 - 100.0 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 Range 65.00 - 100.00

Bay Water Intake

03890282 sampled: 11/21/89 LC50: 72.7 %
95% fid. limits: 60.6 - 87.1 % slope: 8.1
comments:

03890331 sampled: 12/12/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900059 sampled: 01/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900126 sampled: 02/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900205 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single concentration test; non-lethal

03900298 sampled: 04/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900391 sampled: 05/14/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

03900496 sampled: 06/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

Dofasco (continued)

03900623 sampled: 07/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

03900709 sampled: 08/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900818 sampled: 09/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900921 sampled: 10/22/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; Non lethal

Coke Plant Bio Disch

Blast Furnace Blwdwn

Steel Clarifier Disch

Cold Mill Sewer

#1 Hot Mill Discharge

Boiler House Sewer #2

03900060 sampled: 01/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900303 sampled: 04/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: non lethal

01900110 sampled: 06/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit; Non-lethal

03900624 sampled: 07/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900922 sampled: 10/22/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

Dofasco (continued)

SE Coal Fields Sewer

Kenilworth

Rain Gauge

TOXICITY TEST REPORT

Company	: DoFasco Hamilton, ONT (1460005)
Region	: West Central
Industry	: Iron and Steel
Control point	: East Boat Slip Sewer, (100)
Laboratory	: BAR
Sampling Method	: Grab
Sampled By	: S. Ha
Date Collected	: 11/21/89
Received	: 11/21/89
Tested	: 11/23/89 at: 1330

Type of Bioassay : STATIC (Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal	:	Rainbow trout
Weight(gm)	:	
Length(mm)	:	

TEST CONC.	ELAPSED TIME							TOTAL MORTALITY %
	%	00:00	04:00	24:00	48:00	72:00	96:00	
Control	0	0	0	0	0	0	0	
10	0	0	0	0	0	1	10	
20	0	0	0	0	0	1	10	
40	0	0	0	0	0	0	0	
65	0	0	0	0	0	0	0	
100	0	0	0	0	0	0	0	

96 Hour LC50	: Non-lethal
95% fid. limits	: 0.0 - 0.0 %
Comments	: Non lethal

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated BY :

TOXICITY TEST PARAMETERS

Sample Number: 03890285

TEST CONC.	ELAPSED TIME
%	00:00 04:00 24:00 48:00 72:00 96:00

[illegible]

TOXICITY TEST REPORT Sample: 03890329

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : East Boat Slip Sewer, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Spong
Date Collected : 12/12/89
Received : 12/12/89
Tested : 12/13/89 at: 1825

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	1	10
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100%

TOXICITY TEST PARAMETERS

Sample Number: 03890329

TEST CONC. % E L A P S E D T I M E
00:00 24:00 48:00 72:00 96:00

100	pH 8.0 O2 ppm 10.4 Cond. 625 Temp(C) 14.5	14.0	14.5	14.0	14.5	8.0 9.2 626 14.5
65	pH 7.9 O2 ppm 9.8 Cond. 601 Temp(C) 14.5	14.0	14.5	14.0	14.5	8.4 9.6 603 14.5
40	pH 7.9 O2 ppm 9.5 Cond. 586 Temp(C) 14.5	14.0	14.5	14.0	14.5	8.4 9.5 590 14.5
20	pH 7.9 O2 ppm 9.2 Cond. 573 Temp(C) 14.5	14.0	14.5	14.0	14.5	8.4 9.5 573 14.5
10	pH 7.9 O2 ppm 8.9 Cond. 566 Temp(C) 14.5	14.0	14.5	14.0	14.5	8.5 9.6 565 14.5
5	pH 7.8 O2 ppm 8.9 Cond. 565 Temp(C) 14.5	14.0	14.5	14.0	14.5	8.5 9.8 561 14.5
Control	pH 7.8 O2 ppm 8.4 Cond. 560 Temp(C) 14.5	14.0	14.5	14.0	14.5	8.6 9.5 543 14.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900061

TEST CONDITIONS

Company : Dofasco
 : Hamilton, ONT
 : (1460005)
 Region : West Central
 Industry : Iron and Steel
 Control point : East Boat Slip Sewer, (100)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : S. Ha
 Date Collected : 01/23/90
 Received : 01/23/90
 Tested : 01/24/90 at: 1600

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
 95% fid. limits : 0.0 - 0.0 %
 Comments : Non-lethal

SLOPE of Mortality Curve :
 LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900061

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.0 O2 ppm 9.8 Cond. 671 Temp(C) 15.0	14.5	14.5	14.5	8.1 9.0 682 14.5
65	pH 8.0 O2 ppm 9.4 Cond. 622 Temp(C) 15.0	14.5	14.5	14.5	8.3 8.8 627 14.5
40	pH 8.0 O2 ppm 9.1 Cond. 592 Temp(C) 15.0	14.5	14.5	14.5	8.4 9.1 595 14.5
20	pH 8.0 O2 ppm 9.0 Cond. 570 Temp(C) 15.0	14.5	14.5	14.5	8.5 8.8 567 14.5
10	pH 8.0 O2 ppm 8.7 Cond. 560 Temp(C) 15.0	14.5	14.5	14.5	8.5 9.2 551 14.5
5	pH 8.0 O2 ppm 8.7 Cond. 550 Temp(C) 15.0	14.5	14.5	14.5	8.4 8.8 541 14.5
Control	pH 8.0 O2 ppm 9.0 Cond. 544 Temp(C) 15.0	14.5	14.5	14.5	8.5 8.2 544 14.5

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900123

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : East Boat Slip Sewer, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 02/20/90
Received : 02/20/90
Tested : 02/21/90 at: 1100
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test--Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900123

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.2 O2 ppm 9.9 Cond. 744 Temp(C) 15.0	14.0	14.5	14.5	8.2 9.9 745 14.0
100	pH 8.2 O2 ppm 9.9 Cond. 744 Temp(C) 15.0	14.0	14.5	14.5	8.0 9.6 748 14.0
Control	pH 7.9 O2 ppm 8.6 Cond. 545 Temp(C) 15.0	14.0	14.5	14.5	8.4 9.8 541 14.0
Control	pH 7.9 O2 ppm 8.6 Cond. 545 Temp(C) 15.0	14.0	14.5	14.5	8.4 9.6 527 14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900206

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : East Boat Slip Sewer, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Spang
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/20/90 at: 1430
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single concentration test; non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900206

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00
100	pH 8.2 O2 ppm 9.8 Cond. 769 Temp(C) 14.0	14.0	14.0	14.5	14.0
100	pH 8.2 O2 ppm 9.8 Cond. 769 Temp(C) 14.0	14.0	14.0	14.5	14.0
Control	pH 7.9 O2 ppm 8.2 Cond. 549 Temp(C) 15.0	14.0	14.0	14.5	14.0
Control	pH 7.9 O2 ppm 8.2 Cond. 549 Temp(C) 15.0	14.0	14.0	14.5	14.0

TOXICITY TEST REPORT Sample: 03900302

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : East Boat Slip Sewer, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 04/16/90
Received : 04/17/90
Tested : 04/17/90 at: 1530

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test; non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900302

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH	8.1			8.1
	O2 ppm	10.2			9.2
	Cond.	752			774
100	Temp(C)	15.0	14.0	14.0	14.5
					15.5
Control	pH	8.1			8.1
	O2 ppm	10.2			9.4
	Cond.	752			775
Control	Temp(C)	15.0	14.0	14.0	14.5
					15.5
Control	pH	7.9			8.2
	O2 ppm	9.0			8.9
	Cond.	540			549
Control	Temp(C)	15.0	14.0	14.0	14.5
					15.5
Control	pH	7.9			8.4
	O2 ppm	9.0			9.4
	Cond.	540			544
Control	Temp(C)	15.0	14.0	14.0	14.5
					15.5

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900388

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : East Boat Slip Sewer, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Spong
Date Collected : 05/14/90
Received : 05/15/90
Tested : 05/16/90 at: 935

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal; single concentration test

TOXICITY TEST PARAMETERS

Sample Number: 03900388

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.0 O2 ppm 8.3 Cond. 740 Temp(C) 16.0	15.0	14.5	14.0	15.0
100	pH 8.0 O2 ppm 8.3 Cond. 740 Temp(C) 16.0	15.0	14.5	14.0	15.0
Control	pH 7.9 O2 ppm 9.1 Cond. 549 Temp(C) 16.0	15.0	14.5	14.0	15.0
Control	pH 7.9 O2 ppm 9.1 Cond. 549 Temp(C) 16.0	15.0	14.5	14.0	15.0

TOXICITY TEST REPORT Sample: 01900109

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : East Boat Slip Sewer, (100)
Laboratory : MOE
Sampling Method : Grab
Sampled By : M. Smithson
Date Collected : 06/13/90
Received : 06/14/90
Tested : 06/15/90 at: 1000

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	00:30	01:00	02:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit; Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 01900109

TEST CONC. %	E L A P S E D T I M E						
	00:00	00:30	01:00	02:00	24:00	48:00	72:00
100	pH 7.5	7.7	7.8	7.7	7.7	7.7	7.9
	O2 ppm 7.3	9.2	9.5	9.5	9.5	8.7	9.2
	Cond. 650	580	720	730	600	580	580
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0
65	pH 7.8	7.8	7.8	7.8	7.8	7.8	7.9
	O2 ppm 9.3	9.3	9.5	9.5	9.5	8.7	9.3
	Cond. 475	580	585	485	410	485	410
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0
40	pH 7.8	7.8	7.8	7.8	7.8	7.7	8.0
	O2 ppm 9.3	9.3	9.5	9.6	8.6	9.3	9.3
	Cond. 400	480	500	500	410	395	395
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0
30	pH 7.8	7.8	7.8	7.9	7.8	7.8	7.9
	O2 ppm 9.4	9.5	9.5	9.6	8.7	9.2	9.2
	Cond. 335	450	470	375	365	365	365
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0
20	pH 7.9	7.8	7.8	7.8	7.9	7.9	7.9
	O2 ppm 9.4	9.5	9.5	9.6	8.7	9.3	9.3
	Cond. 335	415	445	345	335	335	335
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0
10	pH 7.8	7.8	7.8	7.8	7.8	7.8	7.9
	O2 ppm 9.3	9.5	9.6	8.7	9.3	9.3	9.3
	Cond. 305	415	385	310	300	300	300
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0
Control	pH 7.8	7.7	7.8	7.7	7.7	7.7	7.7
	O2 ppm 9.2	9.5	9.6	8.7	9.2	9.2	9.2
	Cond. 270	325	340	275	270	270	270
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0

HISA Trout

TOXICITY TEST REPORT Sample: 03900493

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : East Boat Slip Sewer, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 06/18/90
Received : 06/19/90
Tested : 06/20/90 at: 1045

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test; non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900493

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00 72:00 96:00

100	pH	7.9				7.9
	O2 ppm	9.0				8.6
	Cond.	752				740
	Temp(C)	16.0	16.0	16.0	15.5	16.0
100	pH	7.9				8.1
	O2 ppm	9.0				9.1
	Cond.	756				743
	Temp(C)	16.0	16.0	16.0	15.5	16.0
Control	pH	7.9				8.4
	O2 ppm	9.7				8.6
	Cond.	541				542
	Temp(C)	16.0	16.0	16.0	15.5	16.0
Control	pH	7.9				8.5
	O2 ppm	9.8				8.4
	Cond.	539				535
	Temp(C)	16.0	16.0	16.0	15.5	16.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900619

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : East Boat Slip Sewer, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 07/23/90
Received : 07/24/90
Tested : 07/25/90 at: 1005

Type of Bioassay

: STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. ONE, 1983).

Test Animal

Weight(gm) : Rainbow trout
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY	
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal; single concentration test

TOXICITY TEST PARAMETERS

Sample Number: 03900619

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.0 O2 ppm 9.2 Cond. 648 Temp(C) 16.0	8.0 9.2 648 16.0	15.5 15.5 15.5 15.5	14.5 14.5 14.5 14.5	15.0 15.0 15.0 15.0
100	pH 8.0 O2 ppm 9.2 Cond. 648 Temp(C) 16.0	8.0 9.2 648 16.0	15.5 15.5 15.5 15.5	14.5 14.5 14.5 14.5	15.0 15.0 15.0 15.0
Control	pH 7.9 O2 ppm 9.5 Cond. 549 Temp(C) 16.0	7.9 9.5 549 16.0	15.5 15.5 15.5 15.5	14.5 14.5 14.5 14.5	15.0 15.0 15.0 15.0
Control	pH 7.9 O2 ppm 9.5 Cond. 549 Temp(C) 16.0	7.9 9.5 549 16.0	15.5 15.5 15.5 15.5	14.5 14.5 14.5 14.5	15.0 15.0 15.0 15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900706

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : East Boat Slip Sewer, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 08/20/90
Received : 08/21/90
Tested : 08/21/90 at: 1520

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
100	0	0	0	0	0
Control	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test; non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900706

TEST CONC.	ELAPSED TIME			
%	00:00	24:00	48:00	72:00 96:00
100	pH 8.2 O2 ppm 9.2 Cond. 580 Temp(C) 15.0	8.2 9.2 580 15.5	15.5 15.5 15.5	15.5 16.0
100	pH 8.2 O2 ppm 9.2 Cond. 580 Temp(C) 15.0	8.2 9.2 580 15.5	15.5 15.5 15.5	15.5 16.0
Control	pH 7.9 O2 ppm 8.2 Cond. 539 Temp(C) 15.0	7.9 8.2 539 15.5	8.3 9.4 533	8.3 9.4 533
Control	pH 7.9 O2 ppm 8.2 Cond. 537 Temp(C) 15.0	7.9 8.2 537 15.5	8.3 9.4 536	8.3 9.4 536

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900815

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : East Boat Slip Sewer, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 09/17/90
Received : 09/18/90
Tested : 09/19/90 at: 930

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test; non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900815

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00
100	pH 8.2 O2 ppm 8.4 Cond. 592 Temp(C) 16.0	16.0	15.5	15.5	8.1 8.9 595 15.5
100	pH 8.2 O2 ppm 8.4 Cond. 592 Temp(C) 16.0	16.0	15.5	15.5	8.0 9.3 596 15.5
Control	pH 8.0 O2 ppm 8.6 Cond. 543 Temp(C) 16.0	16.0	15.5	15.5	8.4 9.0 532 15.5
Control	pH 8.0 O2 ppm 8.6 Cond. 543 Temp(C) 16.0	16.0	15.5	15.5	8.4 9.4 526 15.5

MISA Trout

TOXICITY TEST REPORT Sample: 039000917

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : East Boat Slip Sewer, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 10/22/90
Received : 10/23/90
Tested : 10/23/90 at: 1455

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 039000917

TEST CONC. %	ELAPSED TIME				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.1 O2 ppm 9.0 Cond. 555 Temp(C) 15.5	15.0	15.5	14.0	8.1 10.0 555 14.0
100	pH 8.1 O2 ppm 9.0 Cond. 555 Temp(C) 15.5	15.0	15.5	14.0	8.1 10.0 555 14.0
Control	pH 7.9 O2 ppm 8.7 Cond. 555 Temp(C) 15.5	15.0	15.5	14.0	8.3 10.0 545 14.0
Control	pH 8.0 O2 ppm 8.6 Cond. 553 Temp(C) 15.5	15.0	15.5	14.0	8.4 9.5 541 14.0

TOXICITY TEST REPORT Sample: 03890284

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Ottawa Street Sewer, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 11/21/89
Received : 11/21/89
Tested : 11/23/89 at: 1330
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890284

TEST CONC.	E L A P S E D T I M E					
%	00:00	04:00	24:00	48:00	72:00	96:00

Control	pH 7.9					8.5
	O2 ppm 9.0					9.8
	Cond. 563					559
	Temp(C) 14.5	14.5	14.5	14.5	14.5	14.0
10	pH 7.9					8.5
	O2 ppm 9.1					9.6
	Cond. 565					572
	Temp(C) 14.5	14.5	14.5	14.5	14.5	14.0
20	pH 7.9					8.4
	O2 ppm 9.2					9.4
	Cond. 574					582
	Temp(C) 14.5	14.5	14.5	14.5	14.5	14.0
40	pH 7.9					8.4
	O2 ppm 9.1					9.6
	Cond. 595					600
	Temp(C) 14.5	14.5	14.5	14.5	14.5	14.0
65	pH 7.9					8.4
	O2 ppm 9.2					9.6
	Cond. 615					622
	Temp(C) 14.5	14.5	14.5	14.5	14.5	14.0
100	pH 7.8					8.3
	O2 ppm 9.1					9.7
	Cond. 644					654
	Temp(C) 14.5	14.5	14.5	14.5	14.5	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890332

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Ottawa Street Sewer, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Spong
Date Collected : 12/12/89
Received : 12/12/89
Tested : 12/13/89 at: 1800
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890332

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 7.8 O2 ppm 10.1 Cond. 616 Temp(C) 14.5	14.0	14.0	14.0	8.2 9.4 637 14.0
65	pH 7.8 O2 ppm 9.5 Cond. 606 Temp(C) 14.5	14.0	14.0	14.0	8.3 9.4 608 14.0
40	pH 7.8 O2 ppm 9.3 Cond. 588 Temp(C) 14.5	14.0	14.0	14.0	8.4 9.3 586 14.0
20	pH 7.8 O2 ppm 9.1 Cond. 568 Temp(C) 14.5	14.0	14.0	14.0	8.5 9.3 568 14.0
10	pH 7.8 O2 ppm 8.9 Cond. 564 Temp(C) 14.5	14.0	14.0	14.0	8.4 9.1 566 14.0
5	pH 7.8 O2 ppm 8.8 Cond. 562 Temp(C) 14.5	14.0	14.0	14.0	8.5 9.3 555 14.0
Control	pH 7.8 O2 ppm 8.5 Cond. 561 Temp(C) 14.5	14.0	14.0	14.0	8.6 9.5 543 14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890333

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Ottawa Street Sewer, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Spang
Date Collected : 12/12/89
Received : 12/12/89
Tested : 12/13/89 at: 1800

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. ONE, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890333

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00 72:00 96:00

100	pH	7.8	8.1
	O2 ppm	9.8	9.2
	Cond.	614	635
	Temp(C)	14.5	14.0
65	pH	7.8	8.2
	O2 ppm	9.6	9.1
	Cond.	590	608
	Temp(C)	14.5	14.0
40	pH	7.8	8.3
	O2 ppm	9.5	9.2
	Cond.	584	589
	Temp(C)	14.5	14.0
20	pH	7.8	8.5
	O2 ppm	9.2	9.3
	Cond.	567	570
	Temp(C)	14.5	14.0
10	pH	7.8	8.5
	O2 ppm	8.9	9.3
	Cond.	561	562
	Temp(C)	14.5	14.0
5	pH	7.8	8.5
	O2 ppm	8.7	9.2
	Cond.	560	556
	Temp(C)	14.5	14.0
Control	pH	7.8	8.6
	O2 ppm	8.4	9.5
	Cond.	558	543
	Temp(C)	14.5	14.0

HISA Trout

TOXICITY TEST REPORT Sample: 03900057

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Ottawa Street Sewer, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 01/23/90
Received : 01/23/90
Tested : 01/24/90 at: 1600

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
65	0	0	0	0	0
40	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900057

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH 7.9 O2 ppm 9.7 Cond. 703 Temp(C) 15.0	14.5	14.5	14.5
65	pH 7.9 O2 ppm 9.3 Cond. 643 Temp(C) 15.0	14.5	14.5	14.5
40	pH 8.0 O2 ppm 9.2 Cond. 605 Temp(C) 15.0	14.5	14.5	14.5
20	pH 8.0 O2 ppm 9.2 Cond. 572 Temp(C) 15.0	14.5	14.5	14.5
10	pH 8.0 O2 ppm 9.2 Cond. 556 Temp(C) 15.0	14.5	14.5	14.5
5	pH 8.0 O2 ppm 9.2 Cond. 549 Temp(C) 15.0	14.5	14.5	14.5
Control	pH 8.0 O2 ppm 9.4 Cond. 538 Temp(C) 15.0	14.5	14.5	14.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900124

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Ottawa Street Sewer, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 02/20/90
Received : 02/20/90
Tested : 02/21/90 at: 1100
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test--Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900124

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00
100	pH 8.1 O2 ppm 9.8 Cond. 761 Temp(C) 15.0	14.0	14.5	14.5	14.0
100	pH 8.1 O2 ppm 9.8 Cond. 761 Temp(C) 15.0	14.0	14.5	14.5	14.0
Control	pH 7.9 O2 ppm 8.6 Cond. 545 Temp(C) 15.0	14.0	14.5	14.5	14.0
Control	pH 7.9 O2 ppm 8.6 Cond. 545 Temp(C) 15.0	14.0	14.5	14.5	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900207

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Ottawa Street Sewer, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Spang
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/20/90 at: 1440

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single concentration test; non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900207

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00

100	pH	8.0			8.1
	O2 ppm	10.1			10.4
	Cond.	74.7			806
	Temp(C)	15.5	14.0	14.5	14.0
100	pH	8.0			8.2
	O2 ppm	10.1			10.3
	Cond.	74.7			799
	Temp(C)	15.5	14.0	14.5	14.0
Control	pH	7.9			8.4
	O2 ppm	8.2			10.1
	Cond.	549			541
	Temp(C)	15.0	14.0	14.5	14.0
Control	pH	7.9			8.4
	O2 ppm	8.2			10.2
	Cond.	549			540
	Temp(C)	15.0	14.0	14.5	14.0

TOXICITY TEST REPORT Sample: 03900301

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Ottawa Street Sewer, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 04/16/90
Received : 04/17/90
Tested : 04/17/90 at: 1525
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test; non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900301

TEST
CONC.
%

E L A P S E D T I M E

00:00 24:00 48:00 72:00 96:00

100	pH	8.0				8.1
	O ₂ ppm	9.9				9.4
	Cond.	763				778
	Temp(C)	15.0	14.0	14.0	14.5	15.5
100	pH	8.0				8.0
	O ₂ ppm	9.9				9.5
	Cond.	763				780
	Temp(C)	15.0	14.0	14.0	14.5	15.5
Control	pH	7.9				8.4
	O ₂ ppm	8.9				9.4
	Cond.	537				540
	Temp(C)	15.0	14.0	14.0	14.5	15.5
Control	pH	7.9				8.4
	O ₂ ppm	8.9				9.5
	Cond.	537				542
	Temp(C)	15.0	14.0	14.0	14.5	15.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900389

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Ottawa Street Sewer, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Spong
Date Collected : 05/14/90
Received : 05/15/90
Tested : 05/16/90 at: 940

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal; single concentration test

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900389

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00 72:00 96:00

100	pH	7.9				8.2
	O2 ppm	8.2				9.7
	Cond.	766				772
	Temp(C)	16.0	15.0	14.5	14.0	14.5
100	pH	7.9				8.2
	O2 ppm	8.2				9.8
	Cond.	766				775
	Temp(C)	16.0	15.0	14.5	14.0	14.5
Control	pH	7.9				8.5
	O2 ppm	9.0				10.1
	Cond.	538				534
	Temp(C)	16.0	15.0	14.5	14.0	14.5
Control	pH	7.9				8.5
	O2 ppm	9.0				10.0
	Cond.	538				542
	Temp(C)	16.0	15.0	14.5	14.0	14.5

TOXICITY TEST REPORT Sample: 01900107

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Ottawa Street Sewer, (200)

Laboratory : MOE
Sampling Method : Grab
Sampled By : M. Smithson
Date Collected : 06/12/90
Received : 06/13/90
Tested : 06/15/90 at: 1000

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	00:30	01:00	02:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 01900107

TEST CONC. %	E L A P S E D T I M E						
	00:00	00:30	01:00	02:00	24:00	48:00	72:00
100	pH 7.5 O2 ppm 7.5 Cond. 600 Temp(C) 15.0	7.7 9.2 550 15.0	7.6 9.5 700 15.0	7.6 9.6 570 15.0	8.0 8.7 560 15.0	8.0 8.7 560 15.0	8.0 8.7 560 15.0
65	pH 7.8 O2 ppm 9.5 Cond. 455 Temp(C) 15.0	7.8 9.5 455 15.0	7.8 9.6 560 15.0	7.6 9.6 470 15.0	7.8 8.5 470 15.0	7.8 8.5 470 15.0	7.9 9.3 455 15.0
40	pH 7.7 O2 ppm 9.3 Cond. 385 Temp(C) 15.0	7.7 9.3 385 15.0	7.8 9.6 475 15.0	7.7 9.6 490 15.0	7.8 8.7 400 15.0	7.8 8.7 400 15.0	7.8 9.2 390 15.0
30	pH 7.7 O2 ppm 9.3 Cond. 355 Temp(C) 15.0	7.7 9.3 355 15.0	7.6 9.6 435 15.0	7.7 9.6 435 15.0	7.6 9.0 370 15.0	7.6 9.0 370 15.0	7.9 9.2 355 15.0
20	pH 7.8 O2 ppm 9.3 Cond. 330 Temp(C) 15.0	7.8 9.3 330 15.0	7.6 9.6 400 15.0	7.8 9.6 400 15.0	7.5 9.0 340 15.0	7.5 9.0 340 15.0	7.9 9.2 325 15.0
10	pH 7.8 O2 ppm 9.4 Cond. 295 Temp(C) 15.0	7.8 9.4 295 15.0	7.7 9.6 360 15.0	7.8 9.6 360 15.0	7.8 9.0 305 15.0	7.8 9.0 305 15.0	7.9 9.3 300 15.0
Control	pH 7.7 O2 ppm 9.3 Cond. 265 Temp(C) 15.0	7.7 9.3 265 15.0	7.6 9.5 325 15.0	7.7 9.5 330 15.0	7.7 9.5 330 15.0	7.7 9.0 265 15.0	7.7 9.3 265 15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900494

TEST CONDITIONS

Company : Dofasco
 Hamilton, ONT
 (1460005)
 Region : West Central
 Industry : Iron and Steel
 Control point : Ottawa Street Sewer, (200)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : S. Ha
 Date Collected : 06/18/90
 Received : 06/19/90
 Tested : 06/20/90 at: 1050
 Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).
 Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
 95% fid. limits : 0.0 - 0.0 %
 Comments : Single Concentration Test; non-lethal

SLOPE of Mortality Curve :
 LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900494

TEST CONC. %
 ELAPSED TIME
 00:00 24:00 48:00 72:00 96:00

100	pH	7.9				7.9
	O2 ppm	8.8				8.4
	Cond.	766				753
	Temp(C)	16.0	16.0	16.0	15.5	16.0
100	pH	7.9				8.2
	O2 ppm	8.8				9.0
	Cond.	766				750
	Temp(C)	16.0	16.0	16.0	15.5	16.0
Control	pH	7.9				8.5
	O2 ppm	9.6				9.1
	Cond.	534				537
	Temp(C)	16.0	16.0	16.0	15.5	16.0
Control	pH	7.9				8.4
	O2 ppm	9.6				9.1
	Cond.	534				540
	Temp(C)	16.0	16.0	16.0	15.5	16.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

Sample: 03900620

TOXICITY TEST REPORT

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Ottawa Street Sewer, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 07/23/90
Received : 07/24/90
Tested : 07/25/90 at: 1010

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal; single concentration test

Sample Number: 03900620

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH 8.0 O2 ppm 9.7 Cond. 658 Temp(C) 16.0	15.5	15.5	14.5 15.0
100	pH 8.0 O2 ppm 9.7 Cond. 658 Temp(C) 16.0	15.5	15.5	14.5 15.0
Control	pH 7.9 O2 ppm 9.6 Cond. 544 Temp(C) 16.0	15.5	15.5	14.5 15.0
Control	pH 7.9 O2 ppm 9.6 Cond. 544 Temp(C) 16.0	15.5	15.5	14.5 15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900707

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Ottawa Street Sewer, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 08/20/90
Received : 08/21/90
Tested : 08/21/90 at: 1530

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	1	1	2	20
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : Single Conc. Test; 10% mort. @ 100% eff. conc

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900707

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.1 O2 ppm 9.0 Cond. 603 Temp(C) 15.0	15.5	15.5	15.5	8.0 9.4 606 16.0
100	pH 8.1 O2 ppm 9.0 Cond. 603 Temp(C) 15.0	15.5	15.5	15.5	7.9 9.3 606 16.0
Control	pH 7.9 O2 ppm 8.4 Cond. 541 Temp(C) 15.0	15.5	15.5	15.5	8.3 9.4 538 16.0
Control	pH 7.9 O2 ppm 8.4 Cond. 541 Temp(C) 15.0	15.5	15.5	15.5	8.3 9.6 535 16.0

TOXICITY TEST REPORT Sample: 03900816

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Ottawa Street Sewer, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 09/17/90
Received : 09/18/90 at: 935
Tested : 09/19/90

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. ONE, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900816

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00

100	pH	8.1			8.1
	O ₂ ppm	8.4			9.4
	Cond.	591			588
	Temp(C)	16.0	16.0	15.5	15.5
100	pH	8.1			8.1
	O ₂ ppm	8.4			9.4
	Cond.	591			593
	Temp(C)	16.0	16.0	15.5	15.5
Control	pH	8.0			8.4
	O ₂ ppm	8.6			9.0
	Cond.	543			532
	Temp(C)	16.0	16.0	15.5	15.5
Control	pH	8.0			8.4
	O ₂ ppm	8.6			9.4
	Cond.	543			526
	Temp(C)	16.0	16.0	15.5	15.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900918

TEST CONDITIONS

Company : Dofasco
 Region : Hamilton, ONT
 Industry : West Central
 : Iron and Steel
 Control point : Ottawa Street Sewer, (200)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : S. Ha
 Date Collected : 10/22/90
 Received : 10/23/90
 Tested : 10/23/90 at: 1450

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
100	0	0	0	0	0
Control	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; Non lethal

SLOPE of Mortality Curve :
 LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900918

TEST CONC. %	ELAPSED TIME			
	00:00	24:00	48:00	72:00 96:00
100	pH 8.0 O2 ppm 8.8 Cond. 569 Temp(C) 15.5	15.0	15.5	14.0 14.0
100	pH 8.0 O2 ppm 8.8 Cond. 569 Temp(C) 15.5	15.0	15.5	14.0 14.0
Control	pH 7.9 O2 ppm 8.7 Cond. 555 Temp(C) 15.5	15.0	15.5	14.0 14.0
Control	pH 7.9 O2 ppm 8.7 Cond. 555 Temp(C) 15.5	15.0	15.5	14.0 14.0

TOXICITY TEST REPORT Sample: 03900058

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Boiler House Sewer #1, (300)

Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 01/23/90
Received : 01/23/90
Tested : 01/24/90 at: 1600

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
65	0	0	0	0	0
40	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900058

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH 8.1 O2 ppm 9.8 Cond. 756 Temp(C) 15.0	14.5	14.5	14.5
65	pH 8.0 O2 ppm 9.4 Cond. 677 Temp(C) 15.0	14.5	14.5	14.5
40	pH 8.0 O2 ppm 9.2 Cond. 623 Temp(C) 15.0	14.5	14.5	14.5
20	pH 7.9 O2 ppm 9.0 Cond. 580 Temp(C) 15.0	14.5	14.5	14.5
10	pH 7.9 O2 ppm 9.0 Cond. 559 Temp(C) 15.0	14.5	14.5	14.5
5	pH 7.9 O2 ppm 9.0 Cond. 549 Temp(C) 15.0	14.5	14.5	14.5
Control	pH 7.9 O2 ppm 8.4 Cond. 536 Temp(C) 15.0	14.5	14.5	14.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900300

TEST CONDITIONS

Company : Dofasco
 : Hamilton, ONT
 : (1460005)
 Region : West Central
 Industry : Iron and Steel
 Control point : Boiler House Sewer #1, (300)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : S. Ha
 Date Collected : 04/16/90
 Received : 04/17/90
 Tested : 04/17/90 at: 1520

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : non lethal

SLOPE of Mortality Curve :
 LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900300

TEST
CONC.
%

E L A P S E D T I M E

00:00 24:00 48:00 72:00 96:00

100	pH	8.1	8.1	8.1	8.1	8.1
	02 ppm	10.0				9.1
	Cond.	790				799
	Temp(C)	15.0	14.5	14.5	14.5	14.5
65	pH	8.1				8.2
	02 ppm	9.8				8.9
	Cond.	699				703
	Temp(C)	15.0	14.5	14.5	14.5	14.5
40	pH	8.0				8.3
	02 ppm	9.6				8.8
	Cond.	655				661
	Temp(C)	15.0	14.5	14.5	14.5	14.5
20	pH	8.0				8.3
	02 ppm	9.5				8.4
	Cond.	615				620
	Temp(C)	15.0	14.5	14.5	14.5	14.5
10	pH	8.0				8.4
	02 ppm	9.4				8.6
	Cond.	581				590
	Temp(C)	15.0	14.5	14.5	14.5	15.5
5	pH	8.0				8.4
	02 ppm	9.2				8.9
	Cond.	562				570
	Temp(C)	15.0	14.5	14.5	14.5	14.5
Control	pH	7.9				8.4
	02 ppm	9.0				8.9
	Cond.	545				541
	Temp(C)	15.0	14.5	14.5	14.5	14.5

MISA Trout

TOXICITY TEST REPORT Sample: 01900111

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Boiler House Sewer #1, (300)
Laboratory : MOE
Sampling Method : Grab
Sampled By : M. Smithson
Date Collected : 06/13/90
Received : 06/14/90
Tested : 06/15/90 at: 1000

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E								TOTAL MORTALITY
%	00:00	00:30	01:00	02:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : MISA Audit; Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 01900111

TEST CONC. %	E L A P S E D T I M E							
	00:00	00:30	01:00	02:00	24:00	48:00	72:00	96:00
100	pH 7.6							
	O2 ppm 8.2							
	Cond. 640							
	Temp(C) 15.0							
65	pH 7.8	7.9	7.9	7.8	7.7	7.8	7.7	7.6
	O2 ppm 8.1	9.5	9.5	8.6	7.3	9.5	9.6	8.5
	Cond. 480	575	590	490	580	695	700	600
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
40	pH 7.8	7.9	7.9	7.8	7.7	7.8	7.7	7.6
	O2 ppm 8.4	9.5	9.5	8.6	7.3	9.5	9.6	8.5
	Cond. 400	490	495	410	395	495	410	395
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
30	pH 7.9	7.9	7.9	7.8	7.7	7.9	7.9	7.8
	O2 ppm 8.1	9.6	9.6	8.7	8.1	9.6	9.5	8.7
	Cond. 370	415	445	380	370	445	380	365
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
20	pH 8.0	7.9	7.9	7.8	7.7	7.9	7.9	7.8
	O2 ppm 9.3	9.6	9.6	8.7	9.3	9.6	9.6	8.7
	Cond. 340	370	390	345	340	390	345	330
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
10	pH 7.9	7.9	7.9	7.8	7.7	7.9	7.9	7.8
	O2 ppm 9.4	9.6	9.6	8.7	9.4	9.6	9.6	8.7
	Cond. 305	325	360	310	300	360	310	300
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Control	pH 7.7	7.8	7.8	7.8	7.7	7.8	7.8	7.9
	O2 ppm 9.1	9.6	9.6	8.6	9.1	9.6	9.6	8.6
	Cond. 270	330	340	275	270	340	275	265
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 01900130

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Boiler House Sewer #1, (300)
Laboratory : MOE
Sampling Method : Grab
Sampled By : M. Smithson
Date Collected : 06/26/90
Received : 06/28/90
Tested : 06/29/90 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	02:00	25:00	47:00	71:00	96:00	%
100	0	0	0	0	0	2	20
65	0	0	0	0	0	1	10
40	0	0	0	0	0	1	10
30	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
Control	0	0	0	0	0	1	10

96 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : MISA Audit

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 01900130

TEST CONC. %	E L A P S E D T I M E					
	00:00	02:00	25:00	47:00	71:00	96:00
100	pH 7.3 O2 ppm 8.1 Cond. 630 Temp(C) 15.0	7.6 9.1 570 15.0	7.8 10.2 570 15.0	7.9 9.7 570 15.0	7.9 9.1 570 15.0	7.8 8.7 570 15.0
65	pH 7.6 O2 ppm 9.1 Cond. 460 Temp(C) 15.0	7.8 10.2 460 15.0	7.9 9.8 460 15.0	7.9 9.1 460 15.0	7.8 8.7 460 15.0	7.8 8.7 460 15.0
40	pH 7.7 O2 ppm 9.2 Cond. 390 Temp(C) 15.0	7.8 10.2 390 15.0	7.9 9.8 390 15.0	7.9 9.1 390 15.0	7.8 8.7 390 15.0	7.8 8.7 390 15.0
30	pH 7.7 O2 ppm 9.2 Cond. 360 Temp(C) 15.0	7.6 10.3 360 15.0	7.9 9.8 360 15.0	7.9 9.1 360 15.0	7.8 8.7 360 15.0	7.9 8.8 360 15.0
20	pH 7.7 O2 ppm 9.3 Cond. 325 Temp(C) 15.0	7.7 10.2 325 15.0	7.8 9.8 325 15.0	7.7 9.1 325 15.0	7.6 8.9 325 15.0	7.6 8.9 325 15.0
10	pH 7.7 O2 ppm 9.3 Cond. 295 Temp(C) 15.0	7.6 10.2 295 15.0	7.8 9.8 295 15.0	7.7 9.1 295 15.0	7.7 9.0 295 15.0	7.8 9.0 295 15.0
Control	pH 7.7 O2 ppm 9.4 Cond. 255 Temp(C) 15.0	7.7 10.2 255 15.0	7.8 9.7 255 15.0	7.7 9.0 255 15.0	7.7 9.0 255 15.0	7.8 9.0 255 15.0

TOXICITY TEST REPORT Sample: 03900621

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Boiler House Sewer #1, (300)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 07/23/90
Received : 07/24/90
Tested : 07/25/90 at: 1110
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. ONE, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	1	1	1	1	10
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900621

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.1 O2 ppm 9.5 Cond. 639 Temp(C) 15.5				8.1 9.7 649 14.0
65	pH 8.0 O2 ppm 9.5 Cond. 612 Temp(C) 15.5		15.5 15.0	14.5	8.2 9.6 618 14.0
40	pH 7.9 O2 ppm 9.6 Cond. 591 Temp(C) 15.5		15.5 15.0	14.5	8.2 9.6 586 14.0
20	pH 7.9 O2 ppm 9.6 Cond. 567 Temp(C) 15.5		15.5 15.0	14.5	8.2 9.2 565 14.0
10	pH 7.9 O2 ppm 9.6 Cond. 552 Temp(C) 15.5		15.5 15.0	14.5	8.4 9.6 551 14.0
5	pH 7.9 O2 ppm 9.6 Cond. 547 Temp(C) 15.5		15.5 15.0	14.5	8.2 9.1 550 14.0
Control	pH 7.8 O2 ppm 9.6 Cond. 544 Temp(C) 15.5		15.5 15.0	14.5	8.4 9.6 544 14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900919

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Boiler House Sewer #1, (300)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 10/22/90
Received : 10/23/90
Tested : 10/24/90 at: 1100

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900919

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.1	02 ppm 9.0	Cond. 553	Temp(C) 15.5	15.5 14.0 14.0
65	pH 8.0	02 ppm 8.9	Cond. 553	Temp(C) 15.5	15.5 14.0 14.0
40	pH 8.0	02 ppm 8.8	Cond. 553	Temp(C) 15.5	15.5 14.0 14.0
20	pH 8.0	02 ppm 8.8	Cond. 553	Temp(C) 15.5	15.5 14.0 14.0
10	pH 8.0	02 ppm 8.9	Cond. 552	Temp(C) 15.5	15.5 14.0 14.0
5	pH 8.0	02 ppm 8.9	Cond. 552	Temp(C) 15.5	15.5 14.0 14.0
Control	pH 8.0	02 ppm 8.8	Cond. 556	Temp(C) 15.5	15.5 14.0 14.0

TOXICITY TEST REPORT Sample: 03890283

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : West Bay Front Sewer, (400)
Laboratory : BAR
Sampling Method : Sewer
Sampled By : S. Ha
Date Collected : 11/21/89
Received : 11/21/89
Tested : 11/23/89 at: 1330
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	1	10
40	0	0	0	0	0	1	10
65	0	0	0	0	0	0	0
100	0	0	0	0	0	1	10

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890283

TEST CONC. %

E L A P S E D T I M E

00:00 04:00 24:00 48:00 72:00 96:00

Control	pH	7.9					8.5
	O2 ppm	9.2					9.4
	Cond.	560					554
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.0
10	pH	7.9					8.5
	O2 ppm	9.2					9.1
	Cond.	561					564
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.0
20	pH	7.9					8.5
	O2 ppm	9.1					9.3
	Cond.	561					572
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.0
40	pH	7.9					8.4
	O2 ppm	9.3					9.3
	Cond.	562					574
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.0
65	pH	7.9					8.3
	O2 ppm	9.2					9.4
	Cond.	563					575
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.0
100	pH	7.9					8.0
	O2 ppm	9.1					9.4
	Cond.	566					580
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890330

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : West Bay Front Sewer, (400)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Spang
Date Collected : 12/12/89
Received : 12/12/89 at: 1830
Tested : 12/13/89
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
65	0	0	0	0	0
40	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890330

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00 72:00 96:00

100	pH 7.7 O2 ppm 8.3 Cond. 673 Temp(C) 14.5	7.7 8.3 673 14.5	14.0	14.5	14.0	14.0	8.1 9.7 677 14.0
65	pH 7.8 O2 ppm 8.2 Cond. 624 Temp(C) 14.5	7.8 8.2 624 14.5	14.0	14.0	14.5	14.0	8.4 9.8 638 14.0
40	pH 7.8 O2 ppm 8.7 Cond. 617 Temp(C) 14.5	7.8 8.7 617 14.5	14.0	14.0	14.5	14.0	8.4 9.7 612 14.0
20	pH 7.8 O2 ppm 8.9 Cond. 580 Temp(C) 14.5	7.8 8.9 580 14.5	14.0	14.0	14.5	14.0	8.5 9.6 581 14.0
10	pH 7.9 O2 ppm 8.9 Cond. 564 Temp(C) 14.5	7.9 8.9 564 14.5	14.0	14.0	14.5	14.0	8.5 9.4 563 14.0
5	pH 7.9 O2 ppm 8.9 Cond. 556 Temp(C) 14.5	7.9 8.9 556 14.5	14.0	14.0	14.5	14.0	8.5 9.5 555 14.0
Control	pH 7.8 O2 ppm 8.4 Cond. 560 Temp(C) 14.5	7.8 8.4 560 14.5	14.0	14.0	14.5	14.0	8.6 9.5 543 14.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900056

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : West Bay Front Sewer, (400)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 01/23/90
Received : 01/23/90 at: 1600
Tested : 01/24/90

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	1	1	10
65	0	0	0	0	1	10
40	0	0	1	1	1	10
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900056

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH	7.8			8.2
	O2 ppm	9.1			9.1
	Cond.	760			781
	Temp(C)	15.0	14.5	14.5	14.5
65	pH	7.8			8.1
	O2 ppm	8.7			8.3
	Cond.	678			691
	Temp(C)	15.0	14.5	14.5	14.5
40	pH	7.9			8.4
	O2 ppm	8.7			9.1
	Cond.	627			632
	Temp(C)	15.0	14.5	14.5	14.5
20	pH	7.9			8.4
	O2 ppm	8.4			9.1
	Cond.	583			582
	Temp(C)	15.0	14.5	14.5	14.5
10	pH	7.9			8.4
	O2 ppm	8.5			9.0
	Cond.	560			558
	Temp(C)	15.0	14.5	14.5	14.5
5	pH	7.9			8.4
	O2 ppm	8.5			9.0
	Cond.	560			558
	Temp(C)	15.0	14.5	14.5	14.5
Control	pH	7.9			8.3
	O2 ppm	8.4			8.3
	Cond.	536			533
	Temp(C)	15.0	14.5	14.5	14.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900125

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : West Bay Front Sewer, (400)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 02/20/90
Received : 02/20/90
Tested : 02/21/90 at: 1100

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%	
100	0	10	10	10	10	100	100
100	0	10	10	10	10	100	100
65	0	10	10	10	10	100	100
40	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0

96 Hour LC50 : 51.0 %

95% fid. limits : 40.0 - 65.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : Geometric Mean

TOXICITY TEST PARAMETERS

Sample Number: 03900125

TEST CONC. %		E L A P S E D T I M E					
		00:00	24:00	48:00	72:00	96:00	
100	pH	7.6	8.0				
	O2 ppm	9.7	8.8				
	Cond.	789	798				
	Temp(C)	14.5	14.5				
100	pH	7.6	8.1				
	O2 ppm	9.7	8.8				
	Cond.	789	791				
	Temp(C)	14.5	14.5				
65	pH	7.8	8.3				
	O2 ppm	9.4	9.7				
	Cond.	704	706				
	Temp(C)	14.5	14.5				
40	pH	7.9				8.3	
	O2 ppm	9.1				9.2	
	Cond.	660				653	
	Temp(C)	14.5	14.5	14.0	14.0	14.0	
20	pH	7.9				8.3	
	O2 ppm	8.9				9.4	
	Cond.	594				593	
	Temp(C)	14.5	14.5	14.0	14.0	14.0	
10	pH	7.9				8.3	
	O2 ppm	8.8				9.6	
	Cond.	573				568	
	Temp(C)	14.5	14.5	14.0	14.0	14.0	
5	pH	7.9				8.3	
	O2 ppm	8.5				9.7	
	Cond.	561				563	
	Temp(C)	14.5	14.5	14.0	14.0	14.0	
Control	pH	7.9				8.4	
	O2 ppm	8.4				9.9	
	Cond.	545				543	
	Temp(C)	14.5	14.5	14.0	14.0	14.0	

TOXICITY TEST REPORT Sample: 03900208

TEST CONDITIONS

Company : Dofasco
 : Hamilton, ONT
 : (1460005)
 Region : West Central
 Industry : Iron and Steel
 Control point : West Bay Front Sewer, (400)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : D. Spang
 Date Collected : 03/19/90
 Received : 03/20/90 at: 1450
 Tested : 03/20/90

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900208

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.0 O2 ppm 10.4 Cond. 809 Temp(C) 15.0	14.0	14.5	14.0	8.0 10.1 831 14.0
65	pH 7.9 O2 ppm 9.9 Cond. 720 Temp(C) 15.0	14.0	14.5	14.0	8.3 10.2 727 14.0
40	pH 7.9 O2 ppm 9.5 Cond. 655 Temp(C) 15.0	14.0	14.5	14.0	8.3 10.2 659 14.0
20	pH 7.9 O2 ppm 9.3 Cond. 583 Temp(C) 15.5	14.0	14.5	14.0	8.3 10.0 599 14.0
10	pH 7.9 O2 ppm 9.2 Cond. 559 Temp(C) 15.5	14.0	14.5	14.0	8.4 10.3 569 14.0
5	pH 7.9 O2 ppm 9.2 Cond. 549 Temp(C) 16.5	14.0	14.5	14.0	8.4 9.9 555 14.0
Control	pH 7.9 O2 ppm 8.2 Cond. 544 Temp(C) 15.0	14.0	14.5	14.0	8.5 10.2 543 14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900299

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : West Bay Front Sewer, (400)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 04/16/90
Received : 04/17/90
Tested : 04/17/90 at: 1515
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
65	0	0	0	0	0
40	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900299

TEST CONC.	E L A P S E D T I M E			
%	00:00	24:00	48:00	72:00
100	pH 8.9 O2 ppm 10.2 Cond. 800 Temp(C) 15.0	14.0	14.0	14.5
65	pH 8.5 O2 ppm 10.0 Cond. 706 Temp(C) 15.0	14.0	14.0	14.5
40	pH 8.1 O2 ppm 10.1 Cond. 633 Temp(C) 15.0	14.0	14.0	14.5
20	pH 8.1 O2 ppm 10.0 Cond. 598 Temp(C) 15.0	14.0	14.0	14.5
10	pH 8.1 O2 ppm 9.9 Cond. 566 Temp(C) 15.0	14.0	14.0	14.5
5	pH 8.0 O2 ppm 9.9 Cond. 551 Temp(C) 15.0	14.0	14.0	14.5
Control	pH 7.9 O2 ppm 9.9 Cond. 540 Temp(C) 15.0	14.0	14.0	14.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900390

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : West Bay Front Sewer, (400)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Spang
Date Collected : 05/14/90
Received : 05/15/90
Tested : 05/16/90 at: 945

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
65	0	0	0	0	0
40	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900390

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH 8.0 O ₂ ppm 7.8 Cond. 842 Temp(C) 16.0	15.0	14.5	14.0 15.0
65	pH 7.9 O ₂ ppm 7.9 Cond. 731 Temp(C) 16.0	15.0	14.5	14.0 15.0
40	pH 7.9 O ₂ ppm 8.4 Cond. 654 Temp(C) 16.0	15.0	14.5	14.0 15.0
20	pH 7.9 O ₂ ppm 8.6 Cond. 596 Temp(C) 16.0	15.0	14.5	14.0 15.0
10	pH 7.9 O ₂ ppm 8.6 Cond. 564 Temp(C) 16.0	15.0	14.5	14.0 15.0
5	pH 7.9 O ₂ ppm 8.8 Cond. 548 Temp(C) 16.0	15.0	14.5	14.0 15.0
Control	pH 7.9 O ₂ ppm 9.1 Cond. 537 Temp(C) 16.0	15.0	14.5	14.0 15.0

MISA Trout

TOXICITY TEST REPORT Sample: 01900112

TEST CONDITIONS

Company : Dofasco
 : Hamilton, ONT
 : (1460005)
 Region : West Central
 Industry : Iron and Steel
 Control point : West Bay Front Sewer, (400)
 Laboratory : MOE
 Sampling Method : Grab
 Sampled By : M. Smithson
 Date Collected : 06/13/90
 Received : 06/14/90
 Tested : 06/15/90 at: 1000

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY	
%	00:00	00:30	01:00	02:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit; Non-lethal

SLOPE of Mortality Curve :
 LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 01900112

E L A P S E D T I M E

TEST CONC. % 00:00 00:30 01:00 02:00 24:00 48:00 72:00 96:00

100	pH	8.1	7.9	7.8	7.8	7.8	7.8	7.8
	O2 ppm	8.0	9.1	9.6	9.6	8.6	9.1	7.8
	Cond.	700	640	790	795	660	640	640
	Temp.(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0
65	pH		7.9	7.9	7.9	7.7	7.7	7.7
	O2 ppm		9.1	9.7	9.7	8.7	9.3	9.3
	Cond.		510	635	690	520	500	500
	Temp.(C)		15.0	15.0	15.0	15.0	15.0	15.0
40	pH		7.9	7.8	7.8	7.8	7.8	7.8
	O2 ppm		9.3	9.6	9.6	8.5	9.4	9.4
	Cond.		425	480	520	435	420	420
	Temp.(C)		15.0	15.0	15.0	15.0	15.0	15.0
30	pH		7.9	7.8	7.8	7.8	7.8	7.9
	O2 ppm		9.2	9.6	9.6	8.7	9.4	9.4
	Cond.		380	470	495	390	380	380
	Temp.(C)		15.0	15.0	15.0	15.0	15.0	15.0
20	pH		7.8	7.8	7.8	7.8	7.8	7.9
	O2 ppm		9.3	9.6	9.6	8.8	9.5	9.5
	Cond.		350	430	435	355	345	345
	Temp.(C)		15.0	15.0	15.0	15.0	15.0	15.0
10	pH		8.0	7.9	7.8	7.9	7.9	7.9
	O2 ppm		9.1	9.7	9.6	8.7	9.4	9.4
	Cond.		305	375	390	315	300	300
	Temp.(C)		15.0	15.0	15.0	15.0	15.0	15.0
Control	pH		7.9	7.8	7.9	7.8	7.8	7.9
	O2 ppm		9.4	9.6	9.6	8.7	9.4	9.4
	Cond.		270	330	330	275	265	265
	Temp.(C)		15.0	15.0	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 03900495

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : West Bay Front Sewer, (400)

Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 06/18/90
Received : 06/19/90
Tested : 06/20/90 at: 1105

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900495

TEST
CONC.
%

E L A P S E D T I M E

00:00 24:00 48:00 72:00 96:00

100	pH	8.7				7.9
	O2 ppm	8.9				8.6
	Cond.	806				810
	Temp(C)	16.0	15.5	16.0	15.5	16.0
100	pH	8.7				8.1
	O2 ppm	8.9				9.1
	Cond.	806				807
	Temp(C)	16.0	15.5	16.0	15.5	16.0
Control	pH	7.9				8.3
	O2 ppm	9.7				8.9
	Cond.	537				540
	Temp(C)	16.0	15.5	16.0	15.5	16.0
Control	pH	7.9				8.2
	O2 ppm	9.7				8.5
	Cond.	537				534
	Temp(C)	16.0	15.5	16.0	15.5	16.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900622

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : West Bay Front Sewer, (400)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 07/23/90
Received : 07/24/90 at: 1140
Tested : 07/25/90

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal; single concentration test

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900622

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00 72:00 96:00

100	pH 8.6 O2 ppm 9.2 Cond. 723 Temp(C) 15.5	15.5	15.5	15.0	14.5	14.0	8.1 9.6 717
100	pH 8.6 O2 ppm 9.2 Cond. 723 Temp(C) 15.5	15.5	15.5	15.0	14.5	14.0	7.9 9.3 729
Control	pH 7.8 O2 ppm 9.3 Cond. 540 Temp(C) 15.5	15.5	15.5	15.0	14.5	14.0	8.5 9.4 520
Control	pH 7.8 O2 ppm 9.3 Cond. 540 Temp(C) 15.5	15.5	15.5	15.0	14.5	14.0	8.4 9.3 529

MISA Trout

SLOPE of Mortality Curve : Geometric Mean
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900708

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : West Bay Front Sewer, (400)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 08/20/90
Received : 08/21/90
Tested : 08/21/90 at: 1540

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%	
100	0	10	10	10	10	100	
100	0	10	10	10	10	100	
65	0	0	0	0	0	0	
40	0	0	0	0	0	0	
20	0	0	0	0	0	0	
10	0	0	0	0	0	0	
5	0	0	0	0	0	0	
Control	0	0	0	0	0	0	

96 Hour LC50 : 80.6 %

95% fid. limits : 65.0 - 100.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03900708

TEST CONC. %		E L A P S E D T I M E					
		00:00	24:00	48:00	72:00	96:00	
100	pH	9.6	9.3				
	O2 ppm	8.8	8.4				
	Cond.	657	663				
	Temp(C)	15.5	16.0				
100	pH	9.6	9.3				
	O2 ppm	8.8	8.6				
	Cond.	657	665				
	Temp(C)	15.5	16.0				
65	pH	8.9				8.3	
	O2 ppm	8.9				9.3	
	Cond.	612				633	
	Temp(C)	15.5	16.0	15.5	15.5	16.0	
40	pH	8.4				8.3	
	O2 ppm	9.1				9.3	
	Cond.	588				594	
	Temp(C)	15.5	16.0	15.5	15.5	16.0	
20	pH	7.9				8.2	
	O2 ppm	9.2				8.8	
	Cond.	573				568	
	Temp(C)	15.5	16.0	15.5	15.5	16.0	
10	pH	7.8				8.4	
	O2 ppm	9.1				9.3	
	Cond.	559				547	
	Temp(C)	15.5	16.0	15.5	15.5	16.0	
5	pH	7.7				8.4	
	O2 ppm	9.2				9.0	
	Cond.	545				541	
	Temp(C)	15.5	16.0	15.5	15.5	16.0	
Control	pH	7.8				8.4	
	O2 ppm	9.3				9.5	
	Cond.	543				537	
	Temp(C)	15.5	16.0	15.5	15.5	16.0	

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900920

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : West Bay Front Sewer, (400)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 10/22/90
Received : 10/23/90
Tested : 10/24/90 at: 1105
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	4	4	4	4	66
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : 65.0 - 100.0 %

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 Range 65.00 - 100.00

TOXICITY TEST PARAMETERS

Sample Number: 03900920

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 9.2 O2 ppm 9.7 Cond. 628 Temp(C) 15.5	8.8 8.4 633 15.0	8.7 8.4 604 15.5	8.1 9.6 616 14.0	8.5 10.1 553 14.0
65	pH 8.7 O2 ppm 9.7 Cond. 604 Temp(C) 15.5	8.7 9.7 604 15.0	8.7 9.7 604 15.0	8.1 9.6 616 14.0	8.5 10.1 553 14.0
40	pH 8.4 O2 ppm 9.3 Cond. 583 Temp(C) 15.5	8.4 9.3 583 15.0	8.4 9.3 583 15.0	8.4 9.8 586 14.0	8.5 10.1 553 14.0
20	pH 8.1 O2 ppm 9.1 Cond. 568 Temp(C) 15.5	8.1 9.1 568 15.0	8.1 9.1 568 15.0	8.0 8.6 571 14.0	8.5 10.1 553 14.0
10	pH 8.0 O2 ppm 9.1 Cond. 561 Temp(C) 15.5	8.0 9.1 561 15.0	8.0 9.1 561 15.0	8.5 10.1 553 14.0	8.5 10.1 553 14.0
5	pH 8.0 O2 ppm 9.0 Cond. 559 Temp(C) 15.5	8.0 9.0 559 15.0	8.0 9.0 559 15.0	8.5 9.9 547 14.0	8.5 10.1 553 14.0
Control	pH 8.0 O2 ppm 8.9 Cond. 556 Temp(C) 15.5	8.0 8.9 556 15.0	8.0 8.9 556 15.0	8.5 10.0 524 14.0	8.5 10.0 524 14.0

TOXICITY TEST REPORT Sample: 03890282

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Bay Water Intake, (500)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 11/21/89
Received : 11/21/89
Tested : 11/23/89 at: 1330

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY	
%	00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	2	20
100	0	0	0	4	10	10	10	10	100

96 Hour LC50 : 72.7 %

95% fid. limits : 60.6 - 87.1 %

Comments :

SLOPE of Mortality Curve : 8.1
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03890282

TEST CONC.	E L A P S E D T I M E							
%	00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00

Control	pH	7.9							8.6
	O2 ppm	9.3							9.5
	Cond.	560							557
	Temp(C)	14.5	14.0	14.0	14.5	14.5	14.5	14.5	14.0
10	pH	7.9							8.6
	O2 ppm	9.3							9.6
	Cond.	568							555
	Temp(C)	14.5	14.0	14.0	14.5	14.5	14.5	14.5	14.0
20	pH	7.9							8.5
	O2 ppm	9.1							9.5
	Cond.	575							579
	Temp(C)	14.5	14.0	14.0	14.5	14.5	14.5	14.5	14.0
40	pH	8.0							8.5
	O2 ppm	9.2							9.7
	Cond.	589							594
	Temp(C)	14.5	14.0	14.0	14.5	14.5	14.5	14.5	14.0
65	pH	8.1							8.4
	O2 ppm	9.2							9.7
	Cond.	598							619
	Temp(C)	14.5	14.0	14.0	14.5	14.5	14.5	14.5	14.0
100	pH	8.5							8.2
	O2 ppm	9.3							9.6
	Cond.	623							635
	Temp(C)	14.5	14.0	14.0	14.5	14.5	14.5	14.5	14.5

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03890331

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Bay Water Intake, (500)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Spang
Date Collected : 12/12/89
Received : 12/12/89
Tested : 12/13/89 at: 1800

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890331

TEST CONC. %		ELAPSED TIME				
		00:00	24:00	48:00	72:00	96:00
100	pH	7.9				8.0
	O2 ppm	10.3				9.3
	Cond.	600				605
65	Temp(C)	14.5	14.0	14.5	14.5	14.5
	pH	7.9				8.3
	O2 ppm	9.8				9.5
40	Cond.	583				585
	Temp(C)	14.5	14.0	14.5	14.5	14.5
	pH	7.9				8.4
20	O2 ppm	9.4				9.5
	Cond.	572				575
	Temp(C)	14.5	14.0	14.5	14.5	14.5
10	pH	7.9				8.5
	O2 ppm	9.2				9.6
	Cond.	566				569
5	Temp(C)	14.5	14.0	14.5	14.5	14.5
	pH	7.9				8.5
	O2 ppm	9.1				9.6
Control	Cond.	565				566
	Temp(C)	14.5	14.0	14.5	14.5	14.5
	pH	7.9				8.5
Control	O2 ppm	9.1				9.6
	Cond.	560				559
	Temp(C)	14.5	14.0	14.5	14.5	14.5
Control	pH	7.8				8.6
	O2 ppm	8.4				9.5
	Cond.	560				543
Control	Temp(C)	14.5	14.0	14.5	14.5	14.5

HISA Trout

TOXICITY TEST REPORT Sample: 039000059

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Bay Water Intake, (500)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 01/23/90
Received : 01/23/90
Tested : 01/24/90 at: 1600

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
65	0	0	0	0	0
40	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 039000059

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00 72:00 96:00

100	pH 7.9	7.9			8.2
	O2 ppm 9.1				9.0
	Cond. 753				759
	Temp(C) 15.0	14.5	14.5	14.5	14.5
65	pH 7.9				8.4
	O2 ppm 8.9				9.0
	Cond. 680				675
	Temp(C) 15.0	14.5	14.5	14.5	14.5
40	pH 8.0				8.4
	O2 ppm 8.7				8.9
	Cond. 626				623
	Temp(C) 15.0	14.5	14.5	14.5	14.5
20	pH 8.0				8.3
	O2 ppm 8.9				8.6
	Cond. 586				586
	Temp(C) 15.0	14.5	14.5	14.5	14.5
10	pH 8.0				8.4
	O2 ppm 9.0				9.1
	Cond. 560				564
	Temp(C) 15.0	14.5	14.5	14.5	14.5
5	pH 8.0				8.5
	O2 ppm 9.0				9.0
	Cond. 554				554
	Temp(C) 15.0	14.5	14.5	14.5	14.5
Control	pH 8.0				8.4
	O2 ppm 9.0				8.8
	Cond. 550				542
	Temp(C) 15.0	14.5	14.5	14.5	14.5

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900126

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Bay Water Intake, (500)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 02/20/90
Received : 02/20/90
Tested : 02/21/90 at: 1010

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900126

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00
100	pH 8.1 O2 ppm 10.3 Cond. 714 Temp(C) 15.0	14.0	14.5	14.5	8.0 9.7 719 14.0
65	pH 8.0 O2 ppm 10.0 Cond. 646 Temp(C) 15.0	14.0	14.5	14.5	8.3 10.2 655 14.0
40	pH 8.0 O2 ppm 9.7 Cond. 602 Temp(C) 15.0	14.0	14.5	14.5	8.3 10.1 615 14.0
20	pH 8.0 O2 ppm 9.0 Cond. 579 Temp(C) 15.0	14.0	14.5	14.5	8.5 10.2 568 14.0
10	pH 7.9 O2 ppm 8.7 Cond. 560 Temp(C) 15.0	14.0	14.5	14.5	8.5 10.2 550 14.0
5	pH 7.9 O2 ppm 8.7 Cond. 549 Temp(C) 15.0	14.0	14.5	14.5	8.5 10.2 545 14.0
Control	pH 7.9 O2 ppm 7.8 Cond. 544 Temp(C) 15.0	14.0	14.5	14.5	8.5 10.1 522 14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900205

TEST CONDITIONS

Company : Dofasco
 : Hamilton, ONT
 : (1460005)
 Region : West Central
 Industry : Iron and Steel

Control point : Bay Water Intake, (500)

Laboratory : BAR
 Sampling Method : Grab
 Sampled By : D. Spong
 Date Collected : 03/19/90
 Received : 03/20/90
 Tested : 03/20/90 at: 1420

Type of Bioassay : STATIC
 : (Protocol to determine the acute lethality
 : of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single concentration test; non-lethal

SLOPE of Mortality Curve :
 LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900205

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00
100	pH 8.3				8.0
	O2 ppm 11.5				9.9
	Cond. 765				770
	Temp(C) 15.0	14.0	14.0	14.0	14.0
100	pH 8.3				8.0
	O2 ppm 11.5				10.1
	Cond. 765				768
	Temp(C) 15.0	14.0	14.0	14.0	14.0
Control	pH 7.9				8.3
	O2 ppm 8.2				9.8
	Cond. 549				550
	Temp(C) 15.0	14.0	14.0	14.0	14.0
Control	pH 7.9				8.5
	O2 ppm 8.2				10.4
	Cond. 549				540
	Temp(C) 15.0	14.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900298

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Bay Water Intake, (500)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 04/16/90
Received : 04/17/90
Tested : 04/17/90 at: 1545

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900298

TEST
CONC.
%

E L A P S E D T I M E

00:00 24:00 48:00 72:00 96:00

100	pH	8.1			8.3
	O2 ppm	10.2			9.4
	Cond.	760			764
	Temp(C)	15.0	14.5	14.0	15.0
100	pH	8.1			8.2
	O2 ppm	10.2			9.3
	Cond.	760			769
	Temp(C)	15.0	14.5	14.0	15.0
Control	pH	7.9			8.4
	O2 ppm	9.0			8.8
	Cond.	540			541
	Temp(C)	15.0	14.5	14.0	15.0
Control	pH	7.9			8.5
	O2 ppm	9.0			9.3
	Cond.	540			533
	Temp(C)	15.0	14.5	14.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900391

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Bay Water Intake, (500)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Spang
Date Collected : 05/14/90
Received : 05/15/90
Tested : 05/16/90 at: 950

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
100	0	0	0	0	0
Control	0	0	0	0	0
Control	0	0	0	1	10

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal; single concentration test

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900391

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH 8.0 O2 ppm 8.8 Cond. 742 Temp(C) 16.0	15.0	14.5	14.0 8.2 9.9 744 14.5
100	pH 8.0 O2 ppm 8.8 Cond. 742 Temp(C) 16.0	15.0	14.5	14.0 8.3 9.9 747 14.5
Control	pH 7.9 O2 ppm 9.1 Cond. 541 Temp(C) 16.0	15.0	14.5	14.0 8.5 10.0 541 14.5
Control	pH 7.9 O2 ppm 9.1 Cond. 541 Temp(C) 16.0	15.0	14.5	14.0 8.4 9.6 548 14.5

HISA Trout

TOXICITY TEST REPORT Sample: 03900496

TEST CONDITIONS

Company : Dofasco
 : Hamilton, ONT
 : (1460005)
Region : West Central
Industry : Iron and Steel

Control point : Bay Water Intake, (500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 06/18/90
Received : 06/19/90
Tested : 06/20/90 at: 1110

Type of Bioassay : STATIC
 : (Protocol to determine the acute lethality
 : of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test; non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900496

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00 72:00 96:00

100	pH	7.9				8.1
	O2 ppm	9.2				9.2
	Cond.	759				749
	Temp(C)	16.0	15.5	16.0	15.5	15.5
100	pH	7.9				7.9
	O2 ppm	9.2				8.6
	Cond.	759				750
	Temp(C)	16.0	15.5	16.0	15.5	15.5
Control	pH	7.9				8.5
	O2 ppm	9.6				9.3
	Cond.	538				536
	Temp(C)	16.0	15.5	16.0	15.5	15.5
Control	pH	7.9				8.4
	O2 ppm	9.6				9.1
	Cond.	538				539
	Temp(C)	16.0	15.5	16.0	15.5	15.5

TOXICITY TEST REPORT Sample: 03900623

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Bay Water Intake, (500)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 07/23/90
Received : 07/24/90
Tested : 07/25/90 at: 1400
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal; single concentration test

TOXICITY TEST PARAMETERS

Sample Number: 03900623

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.0 O2 ppm 9.6 Cond. 636 Temp(C) 15.0				8.1 9.5 633 14.5
100	pH 8.0 O2 ppm 9.6 Cond. 636 Temp(C) 15.0		15.0 15.0 15.0	15.0	7.8 9.0 641 14.5
Control	pH 7.8 O2 ppm 9.6 Cond. 545 Temp(C) 15.0		15.0 15.0 15.0	15.0	8.3 9.4 533 14.5
Control	pH 7.8 O2 ppm 9.3 Cond. 545 Temp(C) 15.0		15.0 15.0 15.0	15.0	8.2 8.9 534 14.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900709

TEST CONDITIONS

Company : Dofasco
 : Hamilton, ONT
 : (1460005)
Region : West Central
Industry : Iron and Steel

Control point : Bay Water Intake, (500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 08/20/90
Received : 08/21/90
Tested : 08/21/90 at: 1615

Type of Bioassay : STATIC
 : (Protocol to determine the acute lethality
 : of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test; non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900709

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.1 O2 ppm 9.1 Cond. 591 Temp(C) 16.0	15.5	15.5	15.5	8.1 9.6 587 16.0
100	pH 8.1 O2 ppm 9.1 Cond. 591 Temp(C) 16.0	15.5	15.5	15.5	8.0 9.7 588 16.0
Control	pH 7.8 O2 ppm 9.2 Cond. 544 Temp(C) 16.0	15.5	15.5	15.5	8.3 9.5 537 16.0
Control	pH 7.8 O2 ppm 9.2 Cond. 544 Temp(C) 16.0	15.5	15.5	15.5	8.3 9.6 533 16.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900818

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Bay Water Intake, (500)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 09/17/90
Received : 09/18/90
Tested : 09/19/90 at: 945
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test;non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900818

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.1 O2 ppm 8.6 Cond. 579 Temp(C) 16.0	16.0	16.0	15.5	15.5
100	pH 8.1 O2 ppm 8.6 Cond. 579 Temp(C) 16.0	16.0	16.0	15.5	15.5
Control	pH 8.0 O2 ppm 8.6 Cond. 543 Temp(C) 16.0	16.0	16.0	15.5	15.5
Control	pH 8.0 O2 ppm 8.6 Cond. 543 Temp(C) 16.0	16.0	16.0	15.5	15.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900921

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Bay Water Intake, (500)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 10/22/90
Received : 10/23/90
Tested : 10/23/90 at: 1500
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
100	0	0	0	0	0
Control	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test; Non Lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900921

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH 8.0 O2 ppm 9.3 Cond. 552 Temp(C) 15.5	8.0 9.3 552 15.5	15.0 15.5 14.0	7.9 9.6 553 14.0
100	pH 8.0 O2 ppm 9.3 Cond. 552 Temp(C) 15.5	8.0 9.3 552 15.5	15.0 15.5 14.0	8.0 9.9 552 14.0
Control	pH 7.9 O2 ppm 8.7 Cond. 555 Temp(C) 15.5	7.9 8.7 555 15.5	15.0 15.5 14.0	8.3 10.0 545 14.0
Control	pH 8.0 O2 ppm 8.6 Cond. 556 Temp(C) 15.5	8.0 8.6 556 15.5	15.0 15.5 14.0	8.4 9.5 541 14.0

TOXICITY TEST REPORT Sample: 03900060

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Boiler House Sewer #2, (1200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 01/23/90
Received : 01/23/90
Tested : 01/24/90 at: 1600
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. ONE, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900060

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00
100	pH 8.0 O2 ppm 9.8 Cond. 660 Temp(C) 15.0	14.5	14.5	14.5	8.3 9.4 660 14.5
65	pH 8.0 O2 ppm 9.5 Cond. 613 Temp(C) 15.0	14.5	14.5	14.5	8.3 9.2 617 14.5
40	pH 8.0 O2 ppm 9.2 Cond. 592 Temp(C) 15.0	14.5	14.5	14.5	8.5 9.3 583 14.5
20	pH 8.0 O2 ppm 9.2 Cond. 569 Temp(C) 15.0	14.5	14.5	14.5	8.5 9.2 560 14.5
10	pH 8.0 O2 ppm 9.2 Cond. 558 Temp(C) 15.0	14.5	14.5	14.5	8.4 8.9 552 14.5
5	pH 8.0 O2 ppm 8.9 Cond. 550 Temp(C) 15.0	14.5	14.5	14.5	8.5 9.4 539 14.5
Control	pH 7.9 O2 ppm 8.9 Cond. 544 Temp(C) 15.0	14.5	14.5	14.5	8.5 9.4 525 14.5

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900303

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Boiler House Sewer #2, (1200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 04/16/90
Received : 04/17/90
Tested : 04/17/90 at: 1535

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish, OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900303

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.3 O2 ppm 9.9 Cond. 758 Temp(C) 15.0	14.5	14.5	14.5	8.3 9.4 761 14.5
65	pH 8.2 O2 ppm 9.5 Cond. 703 Temp(C) 15.0	14.5	14.5	14.5	8.3 9.3 708 14.5
40	pH 8.2 O2 ppm 9.2 Cond. 678 Temp(C) 15.0	14.5	14.5	14.5	8.3 9.4 681 14.5
20	pH 8.1 O2 ppm 9.2 Cond. 651 Temp(C) 15.0	14.5	14.5	14.5	8.4 9.3 660 14.5
10	pH 8.0 O2 ppm 9.1 Cond. 628 Temp(C) 15.0	14.5	14.5	14.5	8.4 9.3 632 14.5
5	pH 8.0 O2 ppm 9.1 Cond. 601 Temp(C) 15.0	14.5	14.5	14.5	8.4 9.2 611 14.5
Control	pH 7.9 O2 ppm 9.0 Cond. 550 Temp(C) 15.0	14.5	14.5	14.5	8.4 9.4 558 14.5

MISA Trout

TOXICITY TEST REPORT Sample: 01900110

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Boiler House Sewer #2, (1200)
Laboratory : MOE
Sampling Method : Grab
Sampled By : M. Smithson
Date Collected : 06/13/90
Received : 06/14/90
Tested : 06/15/90 at: 1000

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E								TOTAL MORTALITY
%	00:00	00:30	01:00	02:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : MISA Audit; Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 01900110

TEST CONC.	E L A P S E D T I M E							
%	00:00	00:30	01:00	02:00	24:00	48:00	72:00	96:00
100	pH 7.6	7.9	8.0	8.1	7.9	7.9	8.0	8.0
	O2 ppm 7.5	9.4	9.6	9.6	8.6	8.6	9.4	9.4
	Cond. 635	560	700	690	580	580	560	560
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
65	pH 7.8	7.9	7.9	7.9	7.8	7.8	7.9	7.9
	O2 ppm 8.4	9.6	9.6	8.6	9.2	8.6	9.2	9.2
	Cond. 460	570	590	475	455	475	455	455
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
40	pH 7.8	7.9	7.9	7.9	7.9	7.9	7.9	7.9
	O2 ppm 9.4	9.6	9.6	9.6	8.7	8.7	9.4	9.4
	Cond. 390	480	500	400	385	400	385	385
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
30	pH 7.8	7.9	7.8	7.9	7.8	7.8	7.9	7.9
	O2 ppm 9.9	9.6	9.6	9.6	8.7	8.7	9.3	9.3
	Cond. 360	440	485	370	355	370	355	355
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
20	pH 7.9	7.8	7.8	7.8	7.9	7.9	8.0	8.0
	O2 ppm 9.5	9.6	9.6	8.8	9.4	8.8	9.4	9.4
	Cond. 330	410	440	335	325	335	325	325
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
10	pH 7.8	7.7	7.9	7.9	7.9	7.9	7.9	7.9
	O2 ppm 9.4	9.6	9.7	8.6	9.4	8.6	9.4	9.4
	Cond. 300	375	395	305	295	305	295	295
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Control	pH 7.8	7.9	7.8	7.9	7.9	7.9	7.9	7.9
	O2 ppm 9.4	9.6	9.6	8.7	9.4	8.7	9.4	9.4
	Cond. 275	330	335	270	265	270	265	265
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900624

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Boiler House Sewer #2, (1200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 07/23/90
Received : 07/24/90
Tested : 07/25/90 at: 1420

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900624

TEST CONC. %
ELAPSED TIME
00:00 24:00 48:00 72:00 96:00

100	pH	8.0					8.0
	O2 ppm	9.7					9.6
	Cond.	630					633
	Temp(C)	15.5	15.0	15.0	15.0	15.0	14.0
65	pH	7.9					8.0
	O2 ppm	9.6					8.7
	Cond.	596					600
	Temp(C)	15.5	15.0	15.0	15.0	15.0	14.0
40	pH	7.9					8.2
	O2 ppm	9.6					9.0
	Cond.	573					574
	Temp(C)	15.5	15.0	15.0	15.0	15.0	14.0
20	pH	7.9					8.1
	O2 ppm	9.5					9.1
	Cond.	554					553
	Temp(C)	15.5	15.0	15.0	15.0	15.0	14.0
10	pH	7.8					8.4
	O2 ppm	9.5					9.5
	Cond.	546					538
	Temp(C)	15.5	15.0	15.0	15.0	15.0	14.0
5	pH	7.8					8.4
	O2 ppm	9.4					9.2
	Cond.	541					532
	Temp(C)	15.5	15.0	15.0	15.0	15.0	14.0
Control	pH	7.8					8.4
	O2 ppm	9.4					9.5
	Cond.	539					524
	Temp(C)	15.5	15.0	15.0	15.0	15.0	14.0

TOXICITY TEST REPORT Sample: 03900922

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Boiler House Sewer #2, (1200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 10/22/90
Received : 10/23/90
Tested : 10/24/90 at: 1110

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
65	0	0	0	0	0
40	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900922

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH 8.1 O2 ppm 9.5 Cond. 546 Temp(C) 15.5	15.0	15.5	14.0 8.1 9.9 546 14.0
65	pH 8.0 O2 ppm 9.3 Cond. 546 Temp(C) 15.5	15.0	15.5	14.0 8.2 9.9 545 14.0
40	pH 8.0 O2 ppm 9.2 Cond. 546 Temp(C) 15.5	15.0	15.5	14.0 8.2 9.6 544 14.0
20	pH 7.9 O2 ppm 8.9 Cond. 547 Temp(C) 15.5	15.0	15.5	14.0 8.3 9.8 541 14.0
10	pH 7.9 O2 ppm 8.7 Cond. 547 Temp(C) 15.5	15.0	15.5	14.0 8.2 9.5 542 14.0
5	pH 7.9 O2 ppm 8.7 Cond. 548 Temp(C) 15.5	15.0	15.5	14.0 8.5 10.0 533 14.0
Control	pH 7.9 O2 ppm 8.9 Cond. 548 Temp(C) 15.5	15.0	15.5	14.0 8.4 9.8 537 14.0

COMPANY: Dofasco, Hamilton
(1460005)
SECTOR: Iron and Steel
REGION: West Central

SUMMARY

Data for 50 *Daphnia magna* acute lethality toxicity tests conducted on samples of effluent from six different discharge points collected between November 1989 and September 1990 were submitted by Dofasco of Hamilton. Toxicity was random and variable for all outfalls.

Dofasco voluntarily submitted data for toxicity tests conducted on samples of intake water (500). All samples were either nonlethal to *Daphnia*, or had LC50s > 100%.

The three samples for boiler house #1 (300) had LC50s > 100% as did the Ministry audit sample. Two samples from boiler house sewer #2 (1200) were not acutely lethal to *Daphnia* and the other two samples had LC50s > 100%.

Eight of eleven samples from the east boat slip sewer were not acutely lethal to *Daphnia*, and two samples had LC50s > 100%. The sample collected in December was lethal to *Daphnia* with a 48 h LC50 = 62%. The Ministry audit sample tested in June was non-lethal.

Eight of eleven samples from the west bay front sewer (400) were not acutely lethal to *Daphnia*. One sample had an LC50 > 100 %, and two samples exhibited an unusual toxic response in which the greatest number of mortalities occurred in the middle concentrations of effluent. The Ministry audit sample tested in June had an 48 h LC50 > 100%.

Seven of eleven samples from the Ottawa street sewer (200) were not acutely lethal to *Daphnia*, as was the Ministry audit. Two samples had LC50s > 100% and two samples induced an unusual toxic response in which the greatest number of mortalities occurred in the middle concentrations of effluent.

East Boat Slip Sewer

03890285 sampled: 11/20/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100%

03890329 sampled: 12/12/89 LC50: 61.5 %
95% fid. limits: 41.7 - 122.5 % slope: 2.5
comments:

03900061 sampled: 01/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

Dofasco (continued)

03900123	sampled: 02/20/90	non-lethal
	95% fid. limits: 0.0 -	0.0 %
	comments: Non-lethal	
03900206	sampled: 03/19/90	non-lethal
	95% fid. limits: 0.0 -	0.0 %
	comments: Non lethal	
03900302	sampled: 04/16/90	non-lethal
	95% fid. limits: 0.0 -	0.0 %
	comments: Non-lethal	
03900388	sampled: 05/14/90	non-lethal
	95% fid. limits: 0.0 -	0.0 %
	comments: Non lethal	
02900109	sampled: 06/13/90	non-lethal
	95% fid. limits: 0.0 -	0.0 %
	comments: MISA Audit; Non-lethal	
03900493	sampled: 06/18/90	LC50: >100 %
	95% fid. limits: 0.0 -	0.0 %
	comments: LC50 >100	
03900619	sampled: 07/23/90	non-lethal
	95% fid. limits: 0.0 -	0.0 %
	comments: Non lethal	
03900706	sampled: 08/20/90	non-lethal
	95% fid. limits: 0.0 -	0.0 %
	comments: Non lethal	
03900815	sampled: 09/17/90	non-lethal
	95% fid. limits: 0.0 -	0.0 %
	comments: Non-lethal	
03900917	sampled: 10/22/90	non-lethal
	95% fid. limits: 0.0 -	0.0 %
	comments: Non lethal	
Ottawa Street Sewer		
03890284	sampled: 11/20/89	non-lethal
	95% fid. limits: 0.0 -	0.0 %
	comments: Non-lethal	
03890332	sampled: 12/12/89	non-lethal
	95% fid. limits: 0.0 -	0.0 %
	comments: Non-lethal	

Dofasco (continued)

03890333	sampled: 12/12/89	LC50: >100 %
	95% fid. limits: 0.0 -	0.0 %
	comments: LC50 >100%	
03900057	sampled: 01/22/90	LC50: >100 %
	95% fid. limits: 0.0 -	0.0 %
	comments: LC50 >100	
03900124	sampled: 02/20/90	non-lethal
	95% fid. limits: 0.0 -	0.0 %
	comments: Non-lethal	
03900207	sampled: 03/19/90	non-lethal
	95% fid. limits: 0.0 -	0.0 %
	comments: Non lethal	
03900301	sampled: 04/16/90	non-lethal
	95% fid. limits: 0.0 -	0.0 %
	comments: Non-lethal	
03900389	sampled: 05/14/90	non-lethal
	95% fid. limits: 0.0 -	0.0 %
	comments: Non lethal	
02900107	sampled: 06/12/90	non-lethal
	95% fid. limits: 0.0 -	0.0 %
	comments: MISA Audit; Non-lethal; Some Floaters	
03900494	sampled: 06/18/90	LC50: >100 %
	95% fid. limits: 0.0 -	0.0 %
	comments: LC50 >100	
03900620	sampled: 07/23/90	LC50: >100 %
	95% fid. limits: 0.0 -	0.0 %
	comments: LC50 >100	
03900707	sampled: 08/20/90	LC50: >100 %
	95% fid. limits: 0.0 -	0.0 %
	comments: LC50 >100	
03900816	sampled: 09/17/90	non-lethal
	95% fid. limits: 0.0 -	0.0 %
	comments: Non-lethal	
03900918	sampled: 10/22/90	non-lethal
	95% fid. limits: 0.0 -	0.0 %
	comments: Non lethal	

Dofasco (continued)

Boiler House Sewer #1

03900058	sampled: 01/23/90	LC50: >100	%
	95% fid. limits: 0.0 -	0.0	%
	comments: LC50 >100		
03900300	sampled: 04/16/90	LC50: >100	%
	95% fid. limits: 0.0 -	0.0	%
	comments: LC50 >100		
02900111	sampled: 06/13/90	non-lethal	
	95% fid. limits: 0.0 -	0.0	%
	comments: MISA Audit; Non-lethal		
02900130	sampled: 06/26/90	non-lethal	
	95% fid. limits: 0.0 -	0.0	%
	comments: MISA Audit		
03900621	sampled: 07/23/90	LC50: >100	%
	95% fid. limits: 0.0 -	0.0	%
	comments: LC50 >100		
03900919	sampled: 10/22/90	LC50: >100	%
	95% fid. limits: 0.0 -	0.0	%
	comments: LC50 >100		

West Bay Front Sewer

03890283	sampled: 11/20/89	non-lethal	
	95% fid. limits: 0.0 -	0.0	%
	comments: Non-lethal		
03890330	sampled: 12/12/89	LC50: >100	%
	95% fid. limits: 0.0 -	0.0	%
	comments: LC50 >100%		
03900056	sampled: 01/23/90	LC50: >100	%
	95% fid. limits: 0.0 -	0.0	%
	comments: LC50 >100		
03900125	sampled: 02/20/90	non-lethal	
	95% fid. limits: 0.0 -	0.0	%
	comments: Non-lethal		
03900208	sampled: 03/19/90	non-lethal	
	95% fid. limits: 0.0 -	0.0	%
	comments: Non lethal		
03900299	sampled: 04/16/90	non-lethal	
	95% fid. limits: 0.0 -	0.0	%
	comments: Non-lethal		

Dofasco (continued)

03900390	sampled: 05/14/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non lethal	
02900112	sampled: 06/13/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:	MISA Audit	
03900495	sampled: 06/18/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	
03900622	sampled: 07/23/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:	LC50 >100	
03900708	sampled: 08/20/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non lethal	
03900817	sampled: 09/17/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	
03900920	sampled: 10/22/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:	LC50 >100	

Bay Water Intake

03890282	sampled: 11/20/89	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	
03890331	sampled: 12/12/89	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	
03900059	sampled: 01/23/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:	LC50 >100	
03900126	sampled: 02/20/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	
03900205	sampled: 03/19/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:	LC50 >100	

Dofasco (continued)

03900298	sampled: 04/16/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	
03900391	sampled: 05/14/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non lethal	
03900496	sampled: 06/18/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	
03900623	sampled: 07/23/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:	LC50 >100	
03900709	sampled: 08/20/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:	LC50 >100	
03900818	sampled: 09/17/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	
03900921	sampled: 10/22/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non lethal	

Coke Plant Bio Disch

Blast Furnace Blwdwn

Steel Clarifier Disch

Cold Mill Sewer

#1 Hot Mill Discharge

Boiler House Sewer #2

03900060	sampled: 01/23/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:	LC50 >100	
03900303	sampled: 04/16/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non lethal	
02900110	sampled: 06/13/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	MISA Audit; Non-lethal	

Dofasco (continued)

03900624 sampled: 07/23/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900922 sampled: 10/22/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

SE Coal Fields Sewer

Kenilworth

Rain Gauge

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03890285

TEST CONDITIONS

Company : Dofasco
 : Hamilton, ONT
 : (1460005)
Region : West Central
Industry : Iron and Steel

Control point : East Boat Slip Sewer, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 11/20/89
Received : 11/21/89
Tested : 11/21/89 at: 1510

Type of Bioassay : STATIC
 : (Daphnia magna Acute Lethality Toxicity
 : Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	1	2	16
50	0	0	0	0	0
100	0	0	0	2	16

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 >100%

TOXICITY TEST PARAMETERS

Sample Number: 03890285

TEST CONC.	E L A P S E D T I M E			
%	00:00	04:00	24:00	48:00

Control	pH	8.5			8.4
	O2 ppm	9.4			8.6
	Cond.	303			305
	Temp(C)	20.0	20.0	19.5	20.0
6	pH	8.5			8.4
	O2 ppm	9.4			8.7
	Cond.	326			330
	Temp(C)	20.0	20.0	19.5	20.0
13	pH	8.5			8.3
	O2 ppm	9.1			8.8
	Cond.	342			350
	Temp(C)	20.0	20.0	19.5	20.0
25	pH	8.5			8.3
	O2 ppm	9.6			8.7
	Cond.	373			379
	Temp(C)	20.0	20.0	19.5	20.0
50	pH	8.4			8.2
	O2 ppm	9.5			8.5
	Cond.	441			444
	Temp(C)	20.0	20.0	19.5	20.0
100	pH	8.1			8.0
	O2 ppm	9.4			8.1
	Cond.	578			577
	Temp(C)	20.0	20.0	19.5	20.0

TOXICITY TEST REPORT Sample: 03890329

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel

Control point : East Boat Slip Sewer, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Spong
Date Collected : 12/12/89
Received : 12/12/89
Tested : 12/13/89 at: 1030

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	6	8
50	0	5	5
25	0	3	3
13	0	0	0
6	0	0	0
Control	0	0	1
			66 41 25 0 0 8

48 Hour LC50 : 61.5 %

95% fid. limits : 41.7 - 122.5 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03890329

TEST
CONC.
%

E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.2 O2 ppm 9.8 Cond. 617 Temp(C) 19.5	8.1 8.7 618 20.0 19.5
50	pH 8.5 O2 ppm 9.1 Cond. 456 Temp(C) 19.5	8.3 9.0 458 20.0 19.5
25	pH 8.6 O2 ppm 8.8 Cond. 375 Temp(C) 19.5	8.4 9.2 378 20.0 19.5
13	pH 8.5 O2 ppm 8.7 Cond. 339 Temp(C) 19.5	8.4 9.0 344 20.0 19.5
6	pH 8.7 O2 ppm 8.7 Cond. 317 Temp(C) 19.5	8.2 9.0 320 20.0 19.5
Control	pH 8.8 O2 ppm 8.7 Cond. 296 Temp(C) 19.5	8.4 9.7 303 20.0 19.5

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 039000061

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : East Boat Slip Sewer, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 01/23/90
Received : 01/23/90
Tested : 01/26/90 at: 1630
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 039000061

TEST CONC. %	E L A P S E D T I M E	
	00:00	24:00
100	pH 8.0 O2 ppm 9.2 Cond. 647 Temp(C) 20.0	8.2 8.2 656 19.0
50	pH 8.2 O2 ppm 8.9 Cond. 475 Temp(C) 20.0	8.3 8.2 478 19.0
25	pH 8.3 O2 ppm 8.8 Cond. 390 Temp(C) 20.0	8.4 8.3 389 20.5
13	pH 8.4 O2 ppm 8.8 Cond. 348 Temp(C) 20.0	8.5 8.3 347 20.5
6	pH 8.4 O2 ppm 8.8 Cond. 324 Temp(C) 20.0	8.5 8.3 322 20.5
Control	pH 8.5 O2 ppm 8.8 Cond. 299 Temp(C) 20.0	8.5 8.5 302 20.5

TOXICITY TEST REPORT Sample: 03900123

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : East Boat Slip Sewer, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 02/20/90
Received : 02/20/90
Tested : 02/20/90 at: 1500
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900123

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH O2 ppm Cond. Temp(C)	8.2 9.2 716 20.0	8.1 8.2 721 19.5	20.0
50	pH O2 ppm Cond. Temp(C)	8.4 8.9 520 20.0	8.3 8.4 519 19.5	20.0
25	pH O2 ppm Cond. Temp(C)	8.5 8.9 417 20.0	8.4 8.5 414 19.5	20.0
13	pH O2 ppm Cond. Temp(C)	8.5 8.9 365 20.0	8.4 8.5 362 19.5	20.0
6	pH O2 ppm Cond. Temp(C)	8.6 8.8 337 20.0	8.4 8.5 335 19.5	20.0
Control	pH O2 ppm Cond. Temp(C)	8.6 8.8 304 20.0	8.4 8.8 307 19.5	20.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900206

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : East Boat Slip Sewer, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Spang
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/20/90 at: 1610
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900206

TEST CONC.	ELAPSED TIME	
%	00:00	24:00 48:00
100	pH 8.2 O2 ppm 8.9 Cond. 749 Temp(C) 21.0	8.0 8.2 733 20.0
50	pH 8.3 O2 ppm 8.7 Cond. 526 Temp(C) 21.0	8.1 8.4 517 20.0
25	pH 8.4 O2 ppm 8.7 Cond. 413 Temp(C) 21.0	8.2 8.5 408 20.0
13	pH 8.4 O2 ppm 8.6 Cond. 358 Temp(C) 21.0	8.2 8.5 357 20.0
6	pH 8.5 O2 ppm 8.7 Cond. 325 Temp(C) 21.0	8.3 8.6 333 20.0
Control	pH 8.5 O2 ppm 8.6 Cond. 299 Temp(C) 21.0	8.3 8.6 300 20.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900302

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : East Boat Slip Sewer, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 04/16/90
Received : 04/17/90
Tested : 04/18/90 at: 935
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0 1	8

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900302

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.1 O2 ppm 9.0 Cond. 741 Temp(C) 19.0	8.1 8.8 752 20.0	19.5
50	pH 8.2 O2 ppm 9.0 Cond. 530 Temp(C) 19.0	8.2 8.9 534 20.0	19.5
25	pH 8.3 O2 ppm 9.0 Cond. 416 Temp(C) 19.0	8.3 8.9 420 20.0	19.5
13	pH 8.4 O2 ppm 8.9 Cond. 362 Temp(C) 19.0	8.3 9.0 365 20.0	19.5
6	pH 8.4 O2 ppm 8.9 Cond. 335 Temp(C) 19.0	8.3 9.1 335 20.0	19.5
Control	pH 8.4 O2 ppm 8.9 Cond. 302 Temp(C) 19.0	8.4 8.6 306 20.0	19.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900388

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : East Boat Slip Sewer, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Spang
Date Collected : 05/14/90
Received : 05/15/90
Tested : 05/16/90 at: 1000
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. ONE, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900388

TEST CONC. %	ELAPSED TIME	
	00:00	24:00 48:00
100	pH 8.0 O2 ppm 8.4 Cond. 726 Temp(C) 20.0	19.0 8.0 7.9 724 19.0
50	pH 8.1 O2 ppm 8.7 Cond. 516 Temp(C) 20.0	19.0 8.2 8.2 511 19.0
25	pH 8.1 O2 ppm 8.7 Cond. 407 Temp(C) 20.0	19.0 8.3 8.4 405 19.0
13	pH 8.2 O2 ppm 8.8 Cond. 353 Temp(C) 20.0	19.0 8.2 8.9 351 19.0
6	pH 8.3 O2 ppm 8.8 Cond. 319 Temp(C) 20.0	19.0 8.3 9.0 324 19.0
Control	pH 8.3 O2 ppm 8.7 Cond. 294 Temp(C) 20.0	19.0 8.3 9.0 299 19.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 02900109

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : East Boat Slip Sewer, (100)
Laboratory : MOE
Sampling Method : Grab
Sampled By : M. Smithson
Date Collected : 06/13/90
Received : 06/14/90
Tested : 06/15/90 at: 1000

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	24:00	48:00	%	%
100	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit; Non-lethal

Sample Number: 02900109

TEST CONC.	E L A P S E D T I M E						
%	00:00	01:00	02:00	04:00	24:00	48:00	
100	pH 7.7	7.7	7.7	7.7	7.7	7.8	8.4
	O2 ppm 8.5	8.5	8.5	8.5	8.5	8.4	655
	Cond. 650	650	650	650	650	655	20.0
	Temp(C) 20.0	20.0	20.0	20.0	20.0	20.0	
60	pH 7.7	7.7	7.7	7.7	7.7	7.9	8.4
	O2 ppm 8.8	8.8	8.8	8.8	8.8	8.4	515
	Cond. 520	520	520	520	520	515	20.0
	Temp(C) 20.0	20.0	20.0	20.0	20.0	20.0	
30	pH 7.9	7.9	7.9	7.9	7.9	7.8	8.4
	O2 ppm 8.9	8.9	8.9	8.9	8.9	8.4	415
	Cond. 410	410	410	410	410	415	20.0
	Temp(C) 20.0	20.0	20.0	20.0	20.0	20.0	
15	pH 7.9	7.9	7.9	7.9	7.9	7.6	8.5
	O2 ppm 8.8	8.8	8.8	8.8	8.8	8.5	365
	Cond. 360	360	360	360	360	365	20.0
	Temp(C) 20.0	20.0	20.0	20.0	20.0	20.0	
5	pH 7.9	7.9	7.9	7.9	7.9	7.8	8.5
	O2 ppm 8.8	8.8	8.8	8.8	8.8	8.5	325
	Cond. 325	325	325	325	325	325	20.0
	Temp(C) 20.0	20.0	20.0	20.0	20.0	20.0	
Control	pH 7.8	7.8	7.8	7.8	7.8	7.7	8.4
	O2 ppm 8.8	8.8	8.8	8.8	8.8	8.4	280
	Cond. 275	275	275	275	275	280	20.0
	Temp(C) 20.0	20.0	20.0	20.0	20.0	20.0	

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900493

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Dofasco
 : Hamilton, ONT
 : (1460005)
Region : West Central
Industry : Iron and Steel

Control point : East Boat Slip Sewer, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 06/18/90
Received : 06/19/90
Tested : 06/20/90 at: 1040

Type of Bioassay : STATIC
 : (Daphnia magna Acute Lethality Toxicity
 : Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	0	8
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 >100

Sample Number: 03900493

TEST CONC. % E L A P S E D T I M E
 00:00 24:00 48:00

100	pH 7.8 O2 ppm 8.4 Cond. 735 Temp(C) 20.0	7.8 8.4 735 20.0	7.8 8.2 714 20.5
50	pH 8.0 O2 ppm 8.8 Cond. 522 Temp(C) 20.0	8.0 8.8 522 20.0	8.0 8.6 514 20.5
25	pH 8.1 O2 ppm 8.9 Cond. 422 Temp(C) 20.0	8.1 8.9 422 20.0	8.1 8.7 417 20.5
13	pH 8.1 O2 ppm 9.0 Cond. 368 Temp(C) 20.0	8.1 9.0 368 20.0	8.1 8.7 366 20.5
6	pH 8.1 O2 ppm 9.0 Cond. 341 Temp(C) 20.0	8.1 9.0 341 20.0	8.2 8.7 339 20.5
Control	pH 8.1 O2 ppm 9.0 Cond. 314 Temp(C) 20.0	8.1 9.0 314 20.0	8.1 8.6 313 20.5

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900619

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : East Boat Slip Sewer, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 07/23/90
Received : 07/24/90
Tested : 07/25/90 at: 1015

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900619

TEST CONC. %

E L A P S E D T I M E

00:00 24:00 48:00

100	pH	8.0	8.0	8.0
	O2 ppm	8.7	8.7	8.0
	Cond.	637	627	627
	Temp(C)	20.5	20.0	20.5
50	pH	8.1	8.1	8.1
	O2 ppm	9.0	8.3	8.3
	Cond.	470	465	465
	Temp(C)	20.5	20.0	20.5
25	pH	8.3	8.2	8.2
	O2 ppm	9.1	8.5	8.5
	Cond.	388	383	383
	Temp(C)	20.5	20.0	20.5
13	pH	8.3	8.2	8.2
	O2 ppm	9.1	8.5	8.5
	Cond.	348	346	346
	Temp(C)	20.5	20.0	20.5
6	pH	8.2	8.3	8.3
	O2 ppm	9.2	8.7	8.7
	Cond.	323	320	320
	Temp(C)	20.5	20.0	20.5
Control	pH	8.3	8.3	8.3
	O2 ppm	9.2	8.6	8.6
	Cond.	300	302	302
	Temp(C)	20.5	20.0	20.5

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900706

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : East Boat Slip Sewer, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 08/20/90
Received : 08/21/90
Tested : 08/21/90 at: 1450

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 24:00 48:00	%
100	0 0 0	0
50	0 0 0	0
25	0 0 0	0
13	0 0 0	0
6	0 0 0	0
Control	0 0 0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

Sample Number: 03900706

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.1 O2 ppm 8.1 Cond. 572 Temp(C) 21.0	20.0	21.0
50	pH 8.2 O2 ppm 8.7 Cond. 438 Temp(C) 21.0	20.0	21.0
25	pH 8.3 O2 ppm 8.7 Cond. 371 Temp(C) 21.0	20.0	21.0
13	pH 8.3 O2 ppm 8.7 Cond. 337 Temp(C) 21.0	20.0	21.0
6	pH 8.3 O2 ppm 8.7 Cond. 320 Temp(C) 21.0	20.0	21.0
Control	pH 8.3 O2 ppm 8.8 Cond. 301 Temp(C) 21.0	20.0	21.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900815

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : East Boat Slip Sewer, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 09/17/90
Received : 09/18/90
Tested : 09/18/90 at: 1430

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900815

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.3 O2 ppm 8.7 Cond. 572 Temp(C) 21.0	19.5 20.5	8.0 8.2 579
50	pH 8.4 O2 ppm 8.8 Cond. 435 Temp(C) 21.0	19.5 20.5	8.2 8.4 439
25	pH 8.4 O2 ppm 8.8 Cond. 370 Temp(C) 21.0	19.5 20.5	8.2 8.5 373
13	pH 8.5 O2 ppm 8.9 Cond. 337 Temp(C) 21.0	19.5 20.5	8.2 8.6 340
6	pH 8.5 O2 ppm 8.9 Cond. 317 Temp(C) 21.0	19.5 20.5	8.3 8.6 319
Control	pH 8.5 O2 ppm 8.8 Cond. 302 Temp(C) 21.0	19.5 20.5	8.2 8.6 304

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900917

TEST CONDITIONS

Company : Dofasco
 : Hamilton, ONT
 : (1460005)
Region : West Central
Industry : Iron and Steel

Control point : East Boat Slip Sewer, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 10/23/90
Received : 10/23/90
Tested : 10/23/90 at: 1455

Type of Bioassay : STATIC
 : (Daphnia magna Acute Lethality Toxicity
 : Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900917

TEST CONC. %	E L A P S E D T I M E	
	00:00	24:00 48:00

100	pH 02 ppm Cond. Temp(C)	8.1 9.0 531 21.0	8.1 8.5 537 20.5
50	pH 02 ppm Cond. Temp(C)	8.3 9.0 417 21.0	8.2 8.6 418 20.5
25	pH 02 ppm Cond. Temp(C)	8.3 9.0 356 21.0	8.3 8.7 356 20.5
13	pH 02 ppm Cond. Temp(C)	8.4 9.0 328 21.0	8.3 8.8 328 20.5
6	pH 02 ppm Cond. Temp(C)	8.4 9.0 311 21.0	8.3 8.6 310 20.5
Control	pH 02 ppm Cond. Temp(C)	8.4 9.0 297 21.0	8.3 8.4 296 20.5

TOXICITY TEST REPORT Sample: 03890284

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Ottawa Street Sewer, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 11/20/89
Received : 11/21/89
Tested : 11/21/89 at: 1510
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890284

TEST CONC.	E L A P S E D T I M E			
%	00:00	04:00	24:00	48:00

Control	pH	8.5	8.4
	O2 ppm	9.4	9.2
	Cond.	303	300
	Temp(C)	20.0	20.0
6	pH	8.6	8.4
	O2 ppm	9.3	9.4
	Cond.	328	328
	Temp(C)	20.0	20.0
13	pH	8.5	8.4
	O2 ppm	9.2	9.4
	Cond.	349	352
	Temp(C)	20.0	20.0
25	pH	8.4	8.3
	O2 ppm	9.2	9.2
	Cond.	385	389
	Temp(C)	20.0	20.0
50	pH	8.3	8.3
	O2 ppm	8.9	8.9
	Cond.	463	468
	Temp(C)	20.0	20.0
100	pH	8.2	8.1
	O2 ppm	8.8	8.6
	Cond.	641	629
	Temp(C)	20.0	20.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03890332

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Ottawa Street Sewer, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Spong
Date Collected : 12/12/89
Received : 12/12/89
Tested : 12/13/89 at: 1055

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY
%	00:00 24:00 48:00	%
100	0 0 0	0
50	0 0 0	0
25	0 0 0	0
13	0 0 0	0
6	0 0 0	0
Control	0 0 0	0

Sample Number: 03890332

TEST CONC. %
ELAPSED TIME
00:00 24:00 48:00

100	pH 7.9 O2 ppm 8.1 Cond. 9.7 Temp(C) 624	19.5 20.0 19.5
50	pH 8.3 O2 ppm 9.0 Cond. 469 Temp(C) 19.5	8.3 8.9 463 20.0 19.5
25	pH 8.5 O2 ppm 8.8 Cond. 386 Temp(C) 19.5	8.4 8.9 382 20.0 19.5
13	pH 8.6 O2 ppm 8.8 Cond. 347 Temp(C) 19.5	8.4 8.9 346 20.0 19.5
6	pH 8.6 O2 ppm 8.8 Cond. 323 Temp(C) 19.5	8.4 8.9 321 20.0 19.5
Control	pH 8.8 O2 ppm 8.7 Cond. 296 Temp(C) 19.5	8.4 9.3 302 20.0 19.5

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST REPORT Sample: 03890333

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Ottawa Street Sewer, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Spong
Date Collected : 12/12/89
Received : 12/12/89
Tested : 12/13/89 at: 1145

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	16
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 >100%

TOXICITY TEST PARAMETERS

Sample Number: 03890333

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.0 O2 ppm 9.6 Cond. 616 Temp(C) 19.5	20.0	8.1 8.8 618 19.5
50	pH 8.3 O2 ppm 9.0 Cond. 456 Temp(C) 19.5	20.0	8.3 8.9 459 19.5
25	pH 8.5 O2 ppm 8.7 Cond. 373 Temp(C) 19.5	20.0	8.4 9.0 381 19.5
13	pH 8.6 O2 ppm 8.7 Cond. 335 Temp(C) 19.5	20.0	8.4 9.0 343 19.5
6	pH 8.6 O2 ppm 8.8 Cond. 318 Temp(C) 19.5	20.0	8.4 9.0 327 19.5
Control	pH 8.8 O2 ppm 8.7 Cond. 296 Temp(C) 19.5	20.0	8.4 9.3 302 19.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900057

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Ottawa Street Sewer, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 01/22/90
Received : 01/23/90
Tested : 01/26/90 at: 1610

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	2 2	16
6	0	0	0
Control	0	1 1	8

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900057

TEST CONC. %	E L A P S E D T I M E	
	00:00	24:00 48:00
100	pH 7.9 O2 ppm 9.2 Cond. 687 Temp(C) 20.0	8.2 8.5 687 20.5
50	pH 8.2 O2 ppm 8.9 Cond. 495 Temp(C) 20.0	8.4 8.3 491 20.5
25	pH 8.4 O2 ppm 8.8 Cond. 399 Temp(C) 20.0	8.4 8.4 396 20.5
13	pH 8.4 O2 ppm 8.7 Cond. 354 Temp(C) 20.0	8.5 8.3 349 20.5
6	pH 8.5 O2 ppm 8.7 Cond. 323 Temp(C) 20.0	8.5 8.3 322 20.5
Control	pH 8.5 O2 ppm 8.8 Cond. 299 Temp(C) 20.0	8.5 8.3 297 20.5

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900124

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Ottawa Street Sewer, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 02/20/90
Received : 02/20/90
Tested : 02/20/90 at: 1510

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900124

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.1 O2 ppm 9.0 Cond. 735 Temp(C) 20.0	19.5	20.0
50	pH 8.4 O2 ppm 8.8 Cond. 525 Temp(C) 20.0	19.5	20.0
25	pH 8.5 O2 ppm 8.8 Cond. 419 Temp(C) 20.0	19.5	20.0
13	pH 8.5 O2 ppm 8.7 Cond. 367 Temp(C) 20.0	19.5	20.0
6	pH 8.6 O2 ppm 8.7 Cond. 337 Temp(C) 20.0	19.5	20.0
Control	pH 8.6 O2 ppm 8.8 Cond. 304 Temp(C) 20.0	19.5	20.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900207

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Ottawa Street Sewer, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Spang
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/20/90 at: 1620

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. ONE, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	ELAPSED TIME	TOTAL MORTALITY
		00:00 24:00 48:00	%
100	0	0 0 0	0
50	0	0 0 0	0
25	0	0 0 0	0
13	0	0 0 0	0
6	0	0 0 0	0
Control	0	0 0 0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900207

TEST CONC. %
ELAPSED TIME
00:00 24:00 48:00

100	pH 8.0 O2 ppm 8.8 Cond. 767 Temp(C) 21.0	20.0	8.0 8.4 769 20.0
50	pH 8.3 O2 ppm 8.7 Cond. 539 Temp(C) 21.0	20.0	8.1 8.4 540 20.0
25	pH 8.4 O2 ppm 8.8 Cond. 416 Temp(C) 21.0	20.0	8.2 8.4 420 20.0
13	pH 8.4 O2 ppm 8.7 Cond. 361 Temp(C) 21.0	20.0	8.3 8.4 365 20.0
6	pH 8.4 O2 ppm 8.6 Cond. 329 Temp(C) 21.0	20.0	8.3 8.6 333 20.0
Control	pH 8.5 O2 ppm 8.6 Cond. 299 Temp(C) 21.0	20.0	8.2 8.6 299 20.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900301

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Ottawa Street Sewer, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 04/16/90
Received : 04/17/90
Tested : 04/17/90 at: 1530

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 24:00 48:00	%
100	0 0 0	0
50	0 0 0	0
25	0 0 0	0
13	0 0 0	0
6	0 0 0	0
Control	0 0 0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900301

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.0 O2 ppm 8.9 Cond. 754 Temp(C) 19.5	8.0 8.9 754 19.5	8.0 9.1 754 19.5
50	pH 8.2 O2 ppm 9.0 Cond. 527 Temp(C) 19.5	8.2 9.0 527 19.5	8.2 9.1 527 19.5
25	pH 8.3 O2 ppm 9.0 Cond. 411 Temp(C) 19.5	8.3 9.0 411 19.5	8.2 9.2 412 19.5
13	pH 8.3 O2 ppm 9.0 Cond. 356 Temp(C) 19.5	8.3 9.0 356 19.5	8.3 9.1 356 19.5
6	pH 8.3 O2 ppm 9.0 Cond. 324 Temp(C) 19.5	8.3 9.0 324 19.5	8.3 9.1 326 19.5
Control	pH 8.4 O2 ppm 9.2 Cond. 297 Temp(C) 19.5	8.4 9.2 297 19.5	8.3 9.0 299 19.5

HISA Daphnia

TOXICITY TEST REPORT Sample: 03900389

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Ottawa Street Sewer, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Spong
Date Collected : 05/14/90
Received : 05/15/90
Tested : 05/16/90 at: 1015
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900389

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH	8.0	8.1
	O2 ppm	8.2	8.9
	Cond.	750	753
	Temp(C)	20.0	19.0
50	pH	8.1	8.2
	O2 ppm	8.6	8.9
	Cond.	528	528
	Temp(C)	20.0	19.0
25	pH	8.1	8.3
	O2 ppm	8.7	8.8
	Cond.	411	411
	Temp(C)	20.0	19.0
13	pH	8.2	8.3
	O2 ppm	8.8	8.8
	Cond.	358	360
	Temp(C)	20.0	19.8
6	pH	8.2	8.3
	O2 ppm	8.8	8.9
	Cond.	327	324
	Temp(C)	20.0	19.0
Control	pH	8.3	8.3
	O2 ppm	8.7	8.9
	Cond.	294	303
	Temp(C)	20.0	19.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 02900107

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Ottawa Street Sewer, (200)
Laboratory : MOE
Sampling Method : Grab
Sampled By : M. Smithson
Date Collected : 06/12/90
Received : 06/13/90
Tested : 06/13/90 at: 1100

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	24:00	48:00	%	%
100	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit; Non-lethal; Some Floaters

TOXICITY TEST PARAMETERS

Sample Number: 02900107

TEST CONC. %	E L A P S E D T I M E						
	00:00	01:00	02:00	04:00	24:00	48:00	
100	pH 7.6 O2 ppm 7.5 Cond. 615 Temp(C) 20.0						7.9 8.4 625 20.0
60	pH 7.7 O2 ppm 8.3 Cond. 490 Temp(C) 20.0						7.9 8.4 495 20.0
30	pH 7.8 O2 ppm 8.6 Cond. 400 Temp(C) 20.0						7.8 8.5 410 20.0
15	pH 7.8 O2 ppm 8.7 Cond. 350 Temp(C) 20.0						7.8 8.4 360 20.0
5	pH 7.7 O2 ppm 8.8 Cond. 320 Temp(C) 20.0						7.8 8.6 330 20.0
Control	pH 7.7 O2 ppm 8.8 Cond. 285 Temp(C) 20.0						7.7 8.6 310 20.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

Sample: 03900494

TOXICITY TEST REPORT

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Ottawa Street Sewer, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 06/18/90
Received : 06/19/90
Tested : 06/20/90 at: 1045

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	1	8
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

Sample Number: 03900494

TEST CONC. %
ELAPSED TIME
00:00 24:00 48:00

100	pH 7.8 O2 ppm 8.3 Cond. 726 Temp(C) 20.0	7.9 8.4 720 20.5
50	pH 8.0 O2 ppm 8.8 Cond. 522 Temp(C) 20.0	8.0 8.6 519 20.5
25	pH 8.1 O2 ppm 8.9 Cond. 419 Temp(C) 20.0	8.1 8.7 417 20.5
13	pH 8.1 O2 ppm 8.9 Cond. 368 Temp(C) 20.0	8.1 8.7 366 20.5
6	pH 8.1 O2 ppm 8.9 Cond. 341 Temp(C) 20.0	8.2 8.7 337 20.5
Control	pH 8.1 O2 ppm 9.0 Cond. 314 Temp(C) 20.0	8.2 8.7 308 20.5

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900620

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Ottawa Street Sewer, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 07/23/90
Received : 07/24/90
Tested : 07/25/90 at: 1020

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	1	16
50	0	1	16
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900620

TEST CONC. %	E L A P S E D T I M E	
	00:00	24:00 48:00

100	pH 7.9	8.0
	O2 ppm 8.6	8.4
	Cond. 648	645
	Temp(C) 20.5	20.0 20.5
50	pH 8.1	8.1
	O2 ppm 8.9	8.5
	Cond. 473	475
	Temp(C) 20.5	20.0 20.5
25	pH 8.2	8.2
	O2 ppm 9.0	8.8
	Cond. 390	388
	Temp(C) 20.5	20.0 20.5
13	pH 8.3	8.2
	O2 ppm 9.0	8.7
	Cond. 349	348
	Temp(C) 20.5	20.0 20.5
6	pH 8.3	8.3
	O2 ppm 9.0	8.7
	Cond. 322	320
	Temp(C) 20.5	20.0 20.5
Control	pH 8.3	8.2
	O2 ppm 9.2	8.8
	Cond. 300	300
	Temp(C) 20.5	20.0 20.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900707

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Ottawa Street Sewer, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 08/20/90
Received : 08/21/90 at: 1500
Tested : 08/21/90
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	0	0	0
25	0	0	1	8
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900707

TEST CONC. %	E L A P S E D T I M E		
	00:00	24:00	48:00
100	pH 8.0 O2 ppm 8.2 Cond. 599 Temp(C) 21.0	20.0	8.0 8.0 597 21.0
50	pH 8.2 O2 ppm 8.6 Cond. 451 Temp(C) 21.0	20.0	8.2 8.3 450 21.0
25	pH 8.3 O2 ppm 8.7 Cond. 374 Temp(C) 21.0	20.0	8.3 8.5 377 21.0
13	pH 8.3 O2 ppm 8.7 Cond. 339 Temp(C) 21.0	20.0	8.3 8.5 342 21.0
6	pH 8.3 O2 ppm 8.7 Cond. 318 Temp(C) 21.0	20.0	8.4 8.6 322 21.0
Control	pH 8.3 O2 ppm 8.8 Cond. 301 Temp(C) 21.0	20.0	8.4 8.5 300 21.0

TOXICITY TEST REPORT Sample: 03900816

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Ottawa Street Sewer, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 09/17/90
Received : 09/18/90
Tested : 09/18/90 at: 1530

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900816

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.2 O2 ppm 8.4 Cond. 565 Temp(C) 21.0	8.0 8.2 575 19.5	8.0 8.2 575 20.5
50	pH 8.4 O2 ppm 8.7 Cond. 431 Temp(C) 21.0	8.2 8.5 437 19.5	8.2 8.5 437 20.5
25	pH 8.4 O2 ppm 8.8 Cond. 366 Temp(C) 21.0	8.2 8.5 370 19.5	8.2 8.5 370 20.5
13	pH 8.4 O2 ppm 8.8 Cond. 332 Temp(C) 21.0	8.2 8.6 338 19.5	8.2 8.6 338 20.5
6	pH 8.4 O2 ppm 8.8 Cond. 313 Temp(C) 21.0	8.2 8.6 319 19.5	8.2 8.6 319 20.5
Control	pH 8.5 O2 ppm 8.8 Cond. 302 Temp(C) 21.0	8.3 8.6 304 19.5	8.3 8.6 304 20.5

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900918

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Ottawa Street Sewer, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 10/22/90
Received : 10/23/90 at: 1515
Tested : 10/23/90

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D	T I M E	TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900918

TEST CONC. %	E L A P S E D	T I M E
	00:00	24:00
	24:00	48:00
100	pH 7.9 O2 ppm 8.6 Cond. 548 Temp(C) 20.5	8.0 8.4 552 20.5
50	pH 8.2 O2 ppm 8.8 Cond. 419 Temp(C) 20.5	8.2 8.7 424 20.5
25	pH 8.3 O2 ppm 8.9 Cond. 359 Temp(C) 20.5	8.3 8.8 361 20.5
13	pH 8.4 O2 ppm 8.9 Cond. 331 Temp(C) 20.5	8.3 8.8 333 20.5
6	pH 8.4 O2 ppm 9.0 Cond. 310 Temp(C) 20.5	8.3 8.8 314 20.5
Control	pH 8.4 O2 ppm 9.0 Cond. 297 Temp(C) 20.5	8.3 8.6 297 20.5

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900058

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Boiler House Sewer #1, (300)

Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 01/23/90
Received : 01/23/90
Tested : 01/25/90 at: 1430

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00 24:00 48:00		%
100	0	1	8
50	0	0	0
25	0	0	0
13	0	0	0
6	0	2	16
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900058

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.1 O2 ppm 9.0 Cond. 746 Temp(C) 20.0	8.2 8.1 735 20.0	8.0 20.0
50	pH 8.3 O2 ppm 8.9 Cond. 527 Temp(C) 20.0	8.3 8.1 522 20.0	8.0 20.0
25	pH 8.4 O2 ppm 8.8 Cond. 413 Temp(C) 20.0	8.3 8.1 412 20.0	8.0 20.0
13	pH 8.4 O2 ppm 8.8 Cond. 360 Temp(C) 20.0	8.4 8.0 359 20.0	8.0 20.0
6	pH 8.5 O2 ppm 8.8 Cond. 329 Temp(C) 20.0	8.3 8.1 329 20.0	8.0 20.0
Control	pH 8.5 O2 ppm 8.8 Cond. 304 Temp(C) 20.0	8.3 8.2 298 20.0	8.0 20.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900300

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Boiler House Sewer #1, (300)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 04/16/90
Received : 04/17/90 at: 1510
Tested : 04/17/90

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	3	4	33
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900300

TEST CONC. %

ELAPSED TIME

00:00 24:00 48:00

100	pH	8.2	8.1
	O2 ppm	9.2	8.8
	Cond.	771	776
	Temp(C)	19.5	19.5
50	pH	8.2	8.2
	O2 ppm	9.1	8.9
	Cond.	537	540
	Temp(C)	19.5	19.5
25	pH	8.3	8.2
	O2 ppm	9.0	8.9
	Cond.	418	421
	Temp(C)	19.5	19.5
13	pH	8.4	8.3
	O2 ppm	9.0	8.8
	Cond.	359	360
	Temp(C)	19.5	19.5
6	pH	8.4	8.3
	O2 ppm	9.0	8.8
	Cond.	326	326
	Temp(C)	19.5	19.5
Control	pH	8.4	8.3
	O2 ppm	9.2	9.0
	Cond.	297	299
	Temp(C)	19.5	19.5

TOXICITY TEST REPORT Sample: 02900111

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Boiler House Sewer #1, (300)

Laboratory : MOE
Sampling Method : Grab
Sampled By : M. Smithson
Date Collected : 06/13/90
Received : 06/14/90
Tested : 06/15/90 at: 1100

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	24:00 48:00	%
100	0	0	0	0	0	0
60	0	0	0	0	0	0
30	0	0	0	0	0	0
15	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit; Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 02900111

TEST CONC. % E L A P S E D T I M E
00:00 01:00 02:00 04:00 24:00 48:00

100	pH 7.7 O2 ppm 8.0 Cond. 650 Temp(C) 20.0	7.9 8.4 645 20.0
60	pH 7.8 O2 ppm 8.6 Cond. 525 Temp(C) 20.0	7.9 8.5 535 20.0
30	pH 7.9 O2 ppm 8.8 Cond. 415 Temp(C) 20.0	7.9 8.6 420 20.0
15	pH 7.9 O2 ppm 8.8 Cond. 360 Temp(C) 20.0	7.9 8.5 370 20.0
5	pH 7.9 O2 ppm 8.8 Cond. 320 Temp(C) 20.0	7.9 8.6 335 20.0
Control	pH 7.9 O2 ppm 8.8 Cond. 285 Temp(C) 20.0	7.8 8.6 305 20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 02900130

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Boiler House Sewer #1, (300)
Laboratory : MOE
Sampling Method : Grab
Sampled By : M. Smithson
Date Collected : 06/26/90
Received : 06/28/90
Tested : 06/28/90 at: 1100

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	24:00 48:00	%
100	0	0	0	0	0	0
60	0	0	0	0	0	0
30	0	0	0	0	0	0
15	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : MISA Audit

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 02900130

TEST CONC. %
E L A P S E D T I M E
00:00 01:00 02:00 04:00 24:00 48:00

100	pH 7.4 O2 ppm 6.6 Cond. 650 Temp(C) 20.0	8.1 9.6 650 20.0
60	pH 7.6 O2 ppm 8.1 Cond. 520 Temp(C) 20.0	7.9 9.3 520 20.0
30	pH 7.7 O2 ppm 8.6 Cond. 410 Temp(C) 20.0	7.9 9.0 415 20.0
15	pH 7.8 O2 ppm 8.8 Cond. 355 Temp(C) 20.0	7.9 8.9 375 20.0
5	pH 7.8 O2 ppm 8.9 Cond. 330 Temp(C) 20.0	7.8 8.9 335 20.0
Control	pH 7.8 O2 ppm 8.9 Cond. 305 Temp(C) 20.0	7.8 8.9 310 20.0

TOXICITY TEST REPORT Sample: 03900621

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Boiler House Sewer #1, (300)

Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 07/23/90
Received : 07/24/90
Tested : 07/25/90 at: 1050

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D	T I M E	TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	1	4
50	0	1	1
25	0	0	0
13	0	2	4
6	0	0	1
Control	0	0	0
			33
			8
			0
			33
			8
			0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900621

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.1 O2 ppm 8.9 Cond. 625 Temp(C) 20.5	8.0 8.4 629 20.5	8.0 8.4 20.5
50	pH 8.2 O2 ppm 9.0 Cond. 464 Temp(C) 20.5	8.2 8.6 464 20.5	8.2 8.6 464 20.5
25	pH 8.2 O2 ppm 9.0 Cond. 383 Temp(C) 20.5	8.2 8.6 383 20.5	8.2 8.6 384 20.5
13	pH 8.3 O2 ppm 9.0 Cond. 344 Temp(C) 20.5	8.3 8.8 344 20.5	8.3 8.8 346 20.5
6	pH 8.3 O2 ppm 9.0 Cond. 318 Temp(C) 20.5	8.3 8.8 318 20.5	8.3 8.8 321 20.5
Control	pH 8.3 O2 ppm 9.2 Cond. 300 Temp(C) 20.5	8.2 8.8 301 20.5	8.2 8.8 301 20.5

HISA Daphnia

TOXICITY TEST REPORT Sample: 03900919

TEST CONDITIONS

Company : Dofasco
 Hamilton, ONT
 (1460005)
 Region : West Central
 Industry : Iron and Steel
 Control point : Boiler House Sewer #1, (300)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : S. Ha
 Date Collected : 10/22/90
 Received : 10/23/90
 Tested : 10/24/90 at: 1140

Type of Bioassay : STATIC
 (Daphnia magna Acute Lethality Toxicity
 Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	1	8
50	0	0	0	0
25	0	0	0	0
13	0	0	1	8
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%
 95% fid. limits : 0.0 - 0.0 %
 Comments : LC50 >100

SLOPE of Mortality Curve :
 LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900919

TEST CONC. % ELAPSED TIME
 00:00 24:00 48:00

100	pH 8.1	8.1	8.0
	O2 ppm 9.1		8.5
	Cond. 542		550
	Temp(C) 20.5	20.5	20.0
50	pH 8.1		8.2
	O2 ppm 9.1		8.7
	Cond. 420		425
	Temp(C) 20.5	20.5	20.0
25	pH 8.2		8.3
	O2 ppm 9.1		8.8
	Cond. 364		366
	Temp(C) 20.5	20.5	20.0
13	pH 8.2		8.3
	O2 ppm 9.1		8.9
	Cond. 335		336
	Temp(C) 20.5	20.5	20.0
6	pH 8.3		8.3
	O2 ppm 9.1		8.9
	Cond. 316		318
	Temp(C) 20.5	20.5	20.0
Control	pH 8.3		8.3
	O2 ppm 9.1		8.9
	Cond. 301		303
	Temp(C) 20.5	20.5	20.0

TOXICITY TEST REPORT Sample: 03890283

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : West Bay Front Sewer, (400)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 11/20/89
Received : 11/21/89
Tested : 11/23/89 at: 1500

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	04:00 24:00 48:00	%
Control	0	0 0 0	0
6	0	0 0 0	0
13	0	0 0 0	0
25	0	0 0 0	0
50	0	0 0 0	0
100	0	0 0 0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890283

TEST E L A P S E D T I M E
CONC. %
00:00 04:00 24:00 48:00

Control	pH	8.5	8.5				
	O2 ppm	8.6	9.2				
	Cond.	298	303				
	Temp(C)	20.0	20.0	20.0	20.0		
6	pH	8.4	8.3				
	O2 ppm	8.6	9.3				
	Cond.	321	322				
	Temp(C)	20.0	20.0	20.0	20.0		
13	pH	8.4	8.3				
	O2 ppm	8.4	9.3				
	Cond.	342	342				
	Temp(C)	20.0	20.0	20.0	20.0		
25	pH	8.4	8.3				
	O2 ppm	8.4	9.3				
	Cond.	379	380				
	Temp(C)	20.0	20.0	20.0	20.0		
50	pH	8.4	8.2				
	O2 ppm	8.5	9.1				
	Cond.	459	457				
	Temp(C)	20.0	20.0	20.0	20.0		
100	pH	8.4	8.1				
	O2 ppm	8.7	8.9				
	Cond.	614	611				
	Temp(C)	20.0	20.0	20.0	20.0		

MISA Daphnia

TOXICITY TEST REPORT

Sample: 03890330

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : West Bay Front Sewer, (400)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Spang
Date Collected : 12/12/89
Received : 12/12/89
Tested : 12/13/89 at: 1030

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	1	8
6	0	0	2	16
Control	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100%

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890330

TEST CONC. %

	E L A P S E D T I M E		
	00:00	24:00	48:00

100	pH 7.9 O2 ppm 8.3 Cond. 661 Temp(C) 19.5	7.9 8.3 661 19.5	8.0 8.4 683 19.5
50	pH 8.3 O2 ppm 8.5 Cond. 483 Temp(C) 19.5	8.3 8.5 483 19.5	8.2 8.8 494 19.5
25	pH 8.5 O2 ppm 8.6 Cond. 383 Temp(C) 19.5	8.5 8.6 383 19.5	8.3 8.9 394 19.5
13	pH 8.6 O2 ppm 8.6 Cond. 342 Temp(C) 19.5	8.6 8.6 342 19.5	8.4 8.9 356 19.5
6	pH 8.6 O2 ppm 8.8 Cond. 318 Temp(C) 19.5	8.6 8.8 318 19.5	8.4 8.8 326 19.5
Control	pH 8.8 O2 ppm 8.7 Cond. 296 Temp(C) 19.5	8.8 8.7 296 19.5	8.4 9.6 302 19.5

TOXICITY TEST REPORT Sample: 03900056

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : West Bay Front Sewer, (400)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 01/23/90
Received : 01/23/90
Tested : 01/26/90 at: 1605
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol, OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	1	16
25	0	0	0
13	0	1	8
6	0	1	16
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900056

TEST
CONC.
%

E L A P S E D T I M E

00:00 24:00 48:00

100	pH 7.7 O2 ppm 9.2 Cond. 742 Temp(C) 20.0	8.1 8.3 743 20.5
50	pH 8.1 O2 ppm 9.2 Cond. 528 Temp(C) 20.0	8.3 8.4 523 20.5
25	pH 8.3 O2 ppm 9.2 Cond. 417 Temp(C) 20.0	8.4 8.4 412 20.5
13	pH 8.4 O2 ppm 9.2 Cond. 364 Temp(C) 20.0	8.5 8.5 360 20.5
6	pH 8.5 O2 ppm 9.2 Cond. 333 Temp(C) 20.0	8.5 8.5 329 20.5
Control	pH 8.5 O2 ppm 9.2 Cond. 299 Temp(C) 20.0	8.5 8.3 297 20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900125

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : West Bay Front Sewer, (400)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 02/20/90
Received : 02/20/90
Tested : 02/20/90 at: 1515

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D	T I M E	TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900125

TEST CONC.	E L A P S E D	T I M E
%	00:00	24:00
100	pH 7.8 O2 ppm 8.9 Cond. 762 Temp(C) 20.0	8.0 8.2 775 19.5
50	pH 8.2 O2 ppm 8.8 Cond. 540 Temp(C) 20.0	8.2 8.5 542 19.5
25	pH 8.4 O2 ppm 8.8 Cond. 426 Temp(C) 20.0	8.3 8.6 428 19.5
13	pH 8.5 O2 ppm 8.7 Cond. 370 Temp(C) 20.0	8.4 8.6 369 19.5
6	pH 8.5 O2 ppm 8.7 Cond. 337 Temp(C) 20.0	8.4 8.6 335 19.5
Control	pH 8.6 O2 ppm 8.8 Cond. 304 Temp(C) 20.0	8.4 8.5 308 19.5

TOXICITY TEST REPORT Sample: 03900208

TEST CONDITIONS

Company : Dofasco
 : Hamilton, ONT
 : (1460005)
 Region : West Central
 Industry : Iron and Steel

Control point : West Bay Front Sewer, (400)

Laboratory : BAR
 Sampling Method : Grab
 Sampled By : D. Spong
 Date Collected : 03/19/90
 Received : 03/20/90 at: 1625
 Tested : 03/20/90

Type of Bioassay : STATIC
 : (Daphnia magna Acute Lethality Toxicity
 : Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	%	ELAPSED TIME	TOTAL MORTALITY
100	0	00:00 24:00 48:00	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900208

TEST CONC. %	ELAPSED TIME	PH	O2 ppm	Cond.	Temp(C)
100	00:00 24:00 48:00	8.0	8.0	8.0	8.0
		9.1	8.4	8.4	8.4
		801	796	796	796
		21.0	20.0	20.0	20.0
50		8.2	8.1	8.1	8.1
		8.9	8.5	8.5	8.5
		549	552	552	552
		21.0	20.0	20.0	20.0
25		8.4	8.2	8.2	8.2
		8.8	8.5	8.5	8.5
		426	428	428	428
		21.0	20.0	20.0	20.0
13		8.4	8.2	8.2	8.2
		8.8	8.5	8.5	8.5
		366	368	368	368
		21.0	20.0	20.0	20.0
6		8.4	8.3	8.3	8.3
		8.7	8.5	8.5	8.5
		331	333	333	333
		21.0	20.0	20.0	20.0
Control		8.5	8.3	8.3	8.3
		8.6	8.5	8.5	8.5
		299	296	296	296
		21.0	20.0	20.0	20.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900299

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : West Bay Front Sewer, (400)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 04/16/90
Received : 04/17/90
Tested : 04/17/90 at: 1515

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. ONE, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D	T I M E	TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900299

TEST CONC.	E L A P S E D	T I M E
%	00:00	24:00
100	pH 8.8 O2 ppm 9.0 Cond. 784 Temp(C) 19.5	8.3 9.0 798 19.5
50	pH 8.6 O2 ppm 9.1 Cond. 546 Temp(C) 19.5	8.3 9.1 552 19.5
25	pH 8.4 O2 ppm 9.1 Cond. 422 Temp(C) 19.5	8.3 9.1 425 19.5
13	pH 8.4 O2 ppm 9.1 Cond. 364 Temp(C) 19.5	8.3 9.1 365 19.5
6	pH 8.4 O2 ppm 9.2 Cond. 327 Temp(C) 19.5	8.3 9.0 328 19.5
Control	pH 8.4 O2 ppm 9.2 Cond. 297 Temp(C) 19.5	8.3 8.9 297 19.5

TOXICITY TEST REPORT Sample: 03900390

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : West Bay Front Sewer, (400)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Spong
Date Collected : 05/14/90
Received : 05/15/90
Tested : 05/16/90 at: 1045
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900390

TEST CONC. %	E L A P S E D T I M E	
	00:00	24:00 48:00

100	pH	8.0	8.1
	O2 ppm	7.7	8.7
	Cond.	822	822
	Temp(C)	20.0	19.0
50	pH	8.1	8.2
	O2 ppm	8.5	8.8
	Cond.	557	558
	Temp(C)	20.0	19.0
25	pH	8.2	8.3
	O2 ppm	8.7	9.1
	Cond.	428	428
	Temp(C)	20.0	19.8
13	pH	8.2	8.3
	O2 ppm	8.7	9.0
	Cond.	366	366
	Temp(C)	20.0	19.0
6	pH	8.2	8.3
	O2 ppm	8.7	8.8
	Cond.	330	328
	Temp(C)	20.0	19.0
Control	pH	8.3	8.3
	O2 ppm	8.7	8.9
	Cond.	294	296
	Temp(C)	20.0	19.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 02900112

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : West Bay Front Sewer, (400)
Laboratory : MOE
Sampling Method : Grab
Sampled By : M. Smithson
Date Collected : 06/13/90
Received : 06/14/90
Tested : 06/15/90 at: 1100

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME							TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	24:00	48:00	%	
100	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0
5	0	0	0	0	0	1	8	0
Control	0	0	0	0	0	0	0	0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 02900112

TEST CONC.	ELAPSED TIME						
%	00:00	01:00	02:00	04:00	24:00	48:00	
100	pH 8.2	7.7	7.7	7.7	7.7	8.1	8.1
	O2 ppm 720	710	710	710	710	8.5	8.5
	Temp(C) 20.0	20.0	20.0	20.0	20.0	20.0	20.0
60	pH 8.1	8.1	8.1	8.1	8.1	8.0	8.0
	O2 ppm 560	560	560	560	560	8.7	8.7
	Temp(C) 20.0	20.0	20.0	20.0	20.0	545	545
30	pH 8.0	8.0	8.0	8.0	8.0	20.0	20.0
	O2 ppm 425	425	425	425	425	7.9	7.9
	Temp(C) 20.0	20.0	20.0	20.0	20.0	8.7	8.7
15	pH 8.0	8.0	8.0	8.0	8.0	445	445
	O2 ppm 365	365	365	365	365	20.0	20.0
	Temp(C) 20.0	20.0	20.0	20.0	20.0	8.0	8.0
5	pH 8.0	8.0	8.0	8.0	8.0	8.6	8.6
	O2 ppm 315	315	315	315	315	370	370
	Temp(C) 20.0	20.0	20.0	20.0	20.0	20.0	20.0
Control	pH 7.9	7.9	7.9	7.9	7.9	8.0	8.0
	O2 ppm 270	270	270	270	270	8.6	8.6
	Temp(C) 20.0	20.0	20.0	20.0	20.0	265	265

TOXICITY TEST REPORT Sample: 03900495

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : West Bay Front Sewer, (400)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 06/18/90
Received : 06/19/90
Tested : 06/20/90 at: 1100
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. ONE, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	E L A P S E D	T I M E	TOTAL MORTALITY
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900495

TEST CONC.	%	E L A P S E D	T I M E
100	0	00:00	24:00 48:00

TEST CONC.	%	pH	O2 ppm	Cond.	Temp(C)	pH	O2 ppm	Cond.	Temp(C)
100	0	8.6	8.1	8.3	8.3	8.6	8.1	8.3	8.3
50	0	8.4	8.2	8.7	8.6	8.4	8.2	8.7	8.6
25	0	8.2	8.1	8.9	8.8	8.2	8.1	8.9	8.8
13	0	8.2	8.2	428	430	8.2	8.2	372	373
6	0	8.2	8.2	341	341	8.2	8.2	341	341
Control	0	8.1	8.2	314	307	8.1	8.2	314	307

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900622

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : West Bay Front Sewer, (400)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 07/23/90
Received : 07/24/90
Tested : 07/25/90 at: 1120

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	1	8
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900622

TEST CONC. %
ELAPSED TIME
00:00 24:00 48:00

100	pH 8.6 O2 ppm 8.3 Cond. 703 Temp(C) 20.5	8.1 8.3 703 21.0
50	pH 8.4 O2 ppm 8.8 Cond. 505 Temp(C) 20.5	8.2 8.5 500 21.0
25	pH 8.3 O2 ppm 8.9 Cond. 403 Temp(C) 20.5	8.2 8.6 398 21.0
13	pH 8.3 O2 ppm 9.0 Cond. 358 Temp(C) 20.5	8.3 8.7 354 21.0
6	pH 8.3 O2 ppm 9.1 Cond. 325 Temp(C) 20.5	8.3 8.8 326 21.0
Control	pH 8.3 O2 ppm 9.2 Cond. 300 Temp(C) 20.5	8.3 8.8 301 21.0

TOXICITY TEST REPORT Sample: 03900708

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : West Bay Front Sewer, (400)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 08/20/90
Received : 08/21/90 at: 1555
Tested : 08/21/90

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	E L A P S E D	T I M E	TOTAL MORTALITY
		00:00	24:00	48:00
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900708

TEST CONC. %

E L A P S E D T I M E

00:00 24:00 48:00

100	pH	9.6	9.0
	O2 ppm	8.6	8.2
	Cond.	637	657
	Temp(C)	21.0	20.5
			21.0
50	pH	9.0	8.8
	O2 ppm	8.7	8.4
	Cond.	471	481
	Temp(C)	21.0	20.5
			21.0
25	pH	8.7	8.6
	O2 ppm	8.7	8.5
	Cond.	373	379
	Temp(C)	21.0	20.5
			21.0
13	pH	8.6	8.5
	O2 ppm	8.7	8.6
	Cond.	344	350
	Temp(C)	21.0	20.5
			21.0
6	pH	8.5	8.4
	O2 ppm	8.7	8.6
	Cond.	321	326
	Temp(C)	21.0	20.5
			21.0
Control	pH	8.3	8.3
	O2 ppm	8.8	8.6
	Cond.	301	300
	Temp(C)	21.0	20.5
			21.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900817

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : West Bay Front Sewer, (400)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 09/17/90
Received : 09/18/90
Tested : 09/18/90 at: 1540

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. ONE, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 24:00 48:00	%
100	0 0 0	0
50	0 0 0	0
25	0 0 0	0
13	0 0 0	0
6	0 0 0	0
Control	0 0 0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900817

TEST CONC.	E L A P S E D T I M E
%	00:00 24:00 48:00
100	pH 9.2 8.6 8.4 O2 ppm 8.1 Cond. 627 646 Temp(C) 21.0 19.5 20.5
50	pH 8.9 8.3 O2 ppm 8.3 Cond. 464 476 Temp(C) 21.0 19.5 20.5
25	pH 8.7 8.3 O2 ppm 8.4 Cond. 379 388 Temp(C) 21.0 19.5 20.5
13	pH 8.6 8.3 O2 ppm 8.5 Cond. 341 348 Temp(C) 21.0 19.5 20.5
6	pH 8.5 8.3 O2 ppm 8.5 Cond. 318 325 Temp(C) 21.0 19.5 20.5
Control	pH 8.5 8.3 O2 ppm 8.6 Cond. 302 304 Temp(C) 21.0 19.5 20.5

TOXICITY TEST REPORT Sample: 03900920

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : West Bay Front Sewer, (400)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. He
Date Collected : 10/22/90
Received : 10/23/90
Tested : 10/24/90 at: 1145
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00 24:00 48:00		%
100	0	1	2
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900920

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 9.2	8.5
	O2 ppm 9.1	8.8
	Cond. 612	627
	Temp(C) 20.5	20.5
50	pH 8.8	8.4
	O2 ppm 9.1	8.9
	Cond. 458	465
	Temp(C) 20.5	20.5
25	pH 8.5	8.3
	O2 ppm 9.1	9.0
	Cond. 379	385
	Temp(C) 20.5	20.5
13	pH 8.4	8.3
	O2 ppm 9.1	9.0
	Cond. 343	347
	Temp(C) 20.5	20.5
6	pH 8.3	8.3
	O2 ppm 9.1	9.0
	Cond. 318	322
	Temp(C) 20.5	20.5
Control	pH 8.3	8.3
	O2 ppm 9.1	8.9
	Cond. 301	303
	Temp(C) 20.5	20.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890282

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Bay Water Intake, (500)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 11/20/89
Received : 11/21/89
Tested : 11/23/89 at: 1400

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	04:00	24:00	48:00
Control	0	0	0	0
6	0	0	0	0
13	0	0	0	0
25	0	0	0	0
50	0	0	0	0
100	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890282

TEST CONC. %
E L A P S E D T I M E
00:00 04:00 24:00 48:00

Control	pH	8.5	8.4	8.3	8.2
	O2 ppm	8.6	9.2	9.2	9.2
	Cond.	298	297	313	313
	Temp(C)	20.0	20.0	20.0	20.0
6	pH	8.4	8.3	8.3	8.3
	O2 ppm	8.6	9.2	9.2	9.2
	Cond.	323	313	313	313
	Temp(C)	20.0	20.0	20.0	20.0
13	pH	8.4	8.3	8.3	8.3
	O2 ppm	8.6	9.2	9.2	9.2
	Cond.	340	330	330	330
	Temp(C)	20.0	20.0	20.0	20.0
25	pH	8.4	8.3	8.3	8.3
	O2 ppm	8.5	9.2	9.2	9.2
	Cond.	370	360	360	360
	Temp(C)	20.0	20.0	20.0	20.0
50	pH	8.3	8.2	8.2	8.2
	O2 ppm	8.6	9.1	9.1	9.1
	Cond.	433	421	421	421
	Temp(C)	20.0	20.0	20.0	20.0
100	pH	8.0	8.1	8.1	8.1
	O2 ppm	8.8	8.9	8.9	8.9
	Cond.	563	543	543	543
	Temp(C)	20.0	20.0	20.0	20.0

TOXICITY TEST REPORT Sample: 03890331

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Bay Water Intake, (500)
Laboratory : EAB
Sampling Method : Grab
Sampled By : D. Spang
Date Collected : 12/12/89
Received : 12/12/89
Tested : 12/13/89 at: 1055

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890331

TEST CONC.	E L A P S E D T I M E	
%	00:00	24:00 48:00

100	pH 8.0 O2 ppm 9.8 Cond. 602 Temp(C) 19.5	20.0	8.2 8.7 602 19.5
50	pH 8.4 O2 ppm 9.1 Cond. 454 Temp(C) 19.5	20.0	8.3 8.9 454 19.5
25	pH 8.6 O2 ppm 8.8 Cond. 378 Temp(C) 19.5	20.0	8.3 8.9 380 19.5
13	pH 8.6 O2 ppm 8.7 Cond. 343 Temp(C) 19.5	20.0	8.4 9.0 343 19.5
6	pH 8.6 O2 ppm 8.6 Cond. 324 Temp(C) 19.5	20.0	8.4 9.0 320 19.5
Control	pH 8.8 O2 ppm 8.7 Cond. 296 Temp(C) 19.5	20.0	8.4 9.4 303 19.5

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900059

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Bay Water Intake, (500)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 01/23/90
Received : 01/23/90
Tested : 01/25/90 at: 1440

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 24:00 48:00	%
100	0 0 0	0
50	0 1 1	8
25	0 0 0	0
13	0 0 0	0
6	0 0 0	0
Control	0 0 0	0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900059

TEST CONC. %	E L A P S E D T I M E
	00:00 24:00 48:00
100	pH 8.0 8.2 8.2 O2 ppm 9.2 8.4 8.4 Cond. 739 733 733 Temp(C) 20.0 20.0 20.5
50	pH 8.2 8.3 8.3 O2 ppm 9.0 8.4 8.4 Cond. 520 513 513 Temp(C) 20.0 20.0 20.5
25	pH 8.4 8.3 8.3 O2 ppm 8.9 8.4 8.4 Cond. 414 410 410 Temp(C) 20.0 20.0 20.5
13	pH 8.4 8.4 8.4 O2 ppm 8.8 8.4 8.4 Cond. 363 357 357 Temp(C) 20.0 20.0 20.5
6	pH 8.5 8.4 8.4 O2 ppm 8.8 8.4 8.4 Cond. 329 327 327 Temp(C) 20.0 20.0 20.5
Control	pH 8.5 8.4 8.4 O2 ppm 8.8 8.4 8.4 Cond. 304 299 299 Temp(C) 20.0 20.0 20.5

TOXICITY TEST REPORT Sample: 03900126

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Bay Water Intake, (500)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 02/20/90
Received : 02/20/90
Tested : 02/20/90 at: 1520
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900126

TEST CONC. %	E L A P S E D T I M E	
	00:00	24:00 48:00
100	pH 8.1 O2 ppm 9.1 Cond. 694 Temp(C) 20.0	8.2 8.4 704 20.0
50	pH 8.4 O2 ppm 9.0 Cond. 503 Temp(C) 20.0	8.3 8.6 508 20.0
25	pH 8.5 O2 ppm 9.0 Cond. 411 Temp(C) 20.0	8.4 8.6 411 20.0
13	pH 8.5 O2 ppm 8.8 Cond. 360 Temp(C) 20.0	8.4 8.6 361 20.0
6	pH 8.6 O2 ppm 8.8 Cond. 332 Temp(C) 20.0	8.4 8.6 330 20.0
Control	pH 8.6 O2 ppm 8.8 Cond. 304 Temp(C) 20.0	8.5 8.4 305 20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900205

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Bay Water Intake, (500)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Spong
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/20/90 at: 1600

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol, OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	1	1	8
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900205

TEST CONC. %
ELAPSED TIME
00:00 24:00 48:00

100	pH 8.4 O2 ppm 8.1 Cond. 8.5 Temp(C) 733	21.0	20.0	20.0
50	pH 8.4 O2 ppm 8.2 Cond. 517 Temp(C) 522	21.0	20.0	20.0
25	pH 8.4 O2 ppm 8.2 Cond. 410 Temp(C) 409	21.0	20.0	20.0
13	pH 8.4 O2 ppm 8.2 Cond. 358 Temp(C) 357	21.0	20.0	20.0
6	pH 8.4 O2 ppm 8.3 Cond. 327 Temp(C) 327	21.0	20.0	20.0
Control	pH 8.5 O2 ppm 8.3 Cond. 296 Temp(C) 299	21.0	20.0	20.0

TOXICITY TEST REPORT Sample: 03900298

TEST CONDITIONS

Company : Dofasco
 : Hamilton, ONT
 : (1460005)
 Region : West Central
 Industry : Iron and Steel

Control point : Bay Water Intake, (500)

Laboratory : BAR
 Sampling Method : Grab
 Sampled By : S. Ha
 Date Collected : 04/16/90
 Received : 04/17/90
 Tested : 04/18/90 at: 930

Type of Bioassay : STATIC
 : (Daphnia magna Acute Lethality Toxicity
 : Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900298

TEST CONC. %

E L A P S E D T I M E

00:00 24:00 48:00

100	pH	8.0	8.1
	O2 ppm	8.9	9.1
	Cond.	744	751
	Temp(C)	19.0	20.0
50	pH	8.2	8.2
	O2 ppm	8.9	9.1
	Cond.	532	536
	Temp(C)	19.0	20.0
25	pH	8.3	8.3
	O2 ppm	8.9	9.0
	Cond.	419	421
	Temp(C)	19.0	20.0
13	pH	8.3	8.3
	O2 ppm	8.9	9.0
	Cond.	363	364
	Temp(C)	19.0	20.0
6	pH	8.4	8.3
	O2 ppm	9.0	9.0
	Cond.	334	334
	Temp(C)	19.0	20.0
Control	pH	8.4	8.3
	O2 ppm	8.9	8.5
	Cond.	302	305
	Temp(C)	19.0	20.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900391

TEST CONDITIONS

Company : Dofasco
 : Hamilton, ONT
 : (1460005)
Region : West Central
Industry : Iron and Steel

Control point : Bay Water Intake, (500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Spong
Date Collected : 05/14/90
Received : 05/15/90
Tested : 05/16/90 at: 1055

Type of Bioassay : STATIC
 : (Daphnia magna Acute Lethality Toxicity
 : Test Protocol - OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900391

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.1	8.2	8.2
	O2 ppm 9.0	9.2	9.2
	Cond. 723	731	731
	Temp(C) 20.0	19.0	19.0
50	pH 8.2	8.3	8.3
	O2 ppm 8.9	9.1	9.1
	Cond. 510	514	514
	Temp(C) 20.0	19.0	19.0
25	pH 8.2	8.3	8.3
	O2 ppm 8.9	9.1	9.1
	Cond. 404	405	405
	Temp(C) 20.0	19.0	19.0
13	pH 8.2	8.3	8.3
	O2 ppm 8.8	9.1	9.1
	Cond. 352	353	353
	Temp(C) 20.0	19.0	19.0
6	pH 8.2	8.3	8.3
	O2 ppm 8.7	9.0	9.0
	Cond. 328	329	329
	Temp(C) 20.0	19.0	19.0
Control	pH 8.3	8.3	8.3
	O2 ppm 8.7	8.9	8.9
	Cond. 294	299	299
	Temp(C) 20.0	19.0	19.0

TOXICITY TEST REPORT Sample: 03900496

TEST CONDITIONS

Company : Dofasco
 : Hamilton, ONT
 : (1460005)
 Region : West Central
 Industry : Iron and Steel
 Control point : Bay Water Intake, (500)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : S. Ha
 Date Collected : 06/18/90
 Received : 06/19/90
 Tested : 06/20/90 at: 1120

Type of Bioassay : STATIC
 : (Daphnia magna Acute Lethality Toxicity
 : Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	%	ELAPSED TIME	TOTAL MORTALITY
		00:00 24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900496

TEST CONC. %	ELAPSED TIME	00:00	24:00	48:00
100	pH 7.8 O2 ppm 8.6 Cond. 716 Temp(C) 20.0	7.9 8.5 717 20.5		
50	pH 7.9 O2 ppm 8.9 Cond. 516 Temp(C) 20.0	8.0 8.6 517 20.5		
25	pH 8.0 O2 ppm 9.0 Cond. 411 Temp(C) 20.0	8.1 8.7 412 20.5		
13	pH 8.1 O2 ppm 9.0 Cond. 365 Temp(C) 20.0	8.1 8.7 365 20.5		
6	pH 8.1 O2 ppm 8.9 Cond. 337 Temp(C) 20.0	8.1 8.7 336 20.5		
Control	pH 8.1 O2 ppm 9.0 Cond. 314 Temp(C) 20.0	8.2 8.6 305 20.5		

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900623

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Bay Water Intake, (500)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 07/23/90
Received : 07/24/90
Tested : 07/25/90 at: 1350

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	1	2	16
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 >100

Sample Number: 03900623

TEST CONC. %	E L A P S E D T I M E		
	00:00	24:00	48:00
100	pH 8.0 O2 ppm 9.1 Cond. 619 Temp(C) 21.0	8.0 9.1 20.5	8.0 8.0 620 21.0
50	pH 8.1 O2 ppm 9.1 Cond. 460 Temp(C) 21.0	8.1 9.1 20.5	8.1 8.2 460 21.0
25	pH 8.2 O2 ppm 9.1 Cond. 380 Temp(C) 21.0	8.2 9.1 20.5	8.2 8.4 380 21.0
13	pH 8.1 O2 ppm 9.1 Cond. 344 Temp(C) 21.0	8.1 9.1 20.5	8.2 8.4 344 21.0
6	pH 8.2 O2 ppm 9.2 Cond. 317 Temp(C) 21.0	8.2 9.2 20.5	8.2 8.6 322 21.0
Control	pH 8.3 O2 ppm 9.2 Cond. 300 Temp(C) 21.0	8.3 9.2 20.5	8.3 8.3 302 21.0

TOXICITY TEST REPORT Sample: 03900709

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Bay Water Intake, (500)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 08/20/90
Received : 08/21/90
Tested : 08/21/90 at: 1620

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	1	2	16
50	0	0	0	0
25	0	0	1	8
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900709

TEST CONC. %

E L A P S E D T I M E

00:00 24:00 48:00

100	pH	9.6	9.1
	O2 ppm	8.6	8.2
	Cond.	640	656
	Temp(C)	21.0	20.5
50	pH	9.0	8.7
	O2 ppm	8.7	8.3
	Cond.	470	479
	Temp(C)	21.0	20.5
25	pH	8.8	8.6
	O2 ppm	8.8	8.4
	Cond.	387	394
	Temp(C)	21.0	20.5
13	pH	8.5	8.5
	O2 ppm	8.7	8.5
	Cond.	349	350
	Temp(C)	21.0	20.5
6	pH	8.4	8.4
	O2 ppm	8.7	8.5
	Cond.	320	324
	Temp(C)	21.0	20.5
Control	pH	8.3	8.4
	O2 ppm	8.8	8.7
	Cond.	301	303
	Temp(C)	21.0	20.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900818

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Bay Water Intake, (500)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 09/17/90
Received : 09/18/90 at: 1600
Tested : 09/18/90

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol, OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900818

TEST CONC. %
ELAPSED TIME
00:00 24:00 48:00

100	pH 8.2	8.8	8.0
	O2 ppm 8.3		
	Cond. 552		565
	Temp(C) 21.0	19.5	20.5
50	pH 8.3		8.2
	O2 ppm 8.9		8.4
	Cond. 425		431
	Temp(C) 21.0	19.5	20.5
25	pH 8.4		8.2
	O2 ppm 8.9		8.4
	Cond. 363		367
	Temp(C) 21.0	19.5	20.5
13	pH 8.5		8.3
	O2 ppm 8.9		8.5
	Cond. 332		336
	Temp(C) 21.0	19.5	20.5
6	pH 8.4		8.3
	O2 ppm 8.8		8.5
	Cond. 315		320
	Temp(C) 21.0	19.5	20.5
Control	pH 8.5		8.3
	O2 ppm 8.8		8.5
	Cond. 302		304
	Temp(C) 21.0	19.5	20.5

TOXICITY TEST REPORT Sample: 03900921

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Bay Water Intake, (500)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 10/22/90
Received : 10/23/90
Tested : 10/23/90 at: 1520

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 24:00 48:00	%
100	0 0 0	0
50	0 0 0	0
25	0 0 0	0
13	0 0 0	0
6	0 0 0	0
Control	0 0 0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900921

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.1 O2 ppm 9.1 Cond. 521 Temp(C) 20.5	8.0 8.4 535 20.5
50	pH 8.2 O2 ppm 9.1 Cond. 410 Temp(C) 20.5	8.2 8.6 416 20.5
25	pH 8.3 O2 ppm 9.0 Cond. 350 Temp(C) 20.5	8.3 8.7 355 20.5
13	pH 8.4 O2 ppm 9.0 Cond. 325 Temp(C) 20.5	8.3 8.8 329 20.5
6	pH 8.4 O2 ppm 9.0 Cond. 310 Temp(C) 20.5	8.3 8.8 312 20.5
Control	pH 8.4 O2 ppm 9.0 Cond. 297 Temp(C) 20.5	8.3 8.7 297 20.5

HISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900060

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Boiler House Sewer #2, (1200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 01/23/90
Received : 01/23/90
Tested : 01/26/90 at: 1625

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	1	8
Control	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

Sample Number: 03900060

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.0	8.2
	O2 ppm 9.0	8.2
	Cond. 642	637
	Temp(C) 20.0	20.5
50	pH 8.3	8.4
	O2 ppm 8.8	8.1
	Cond. 476	472
	Temp(C) 20.0	20.5
25	pH 8.4	8.4
	O2 ppm 8.7	8.1
	Cond. 388	387
	Temp(C) 20.0	20.5
13	pH 8.4	8.5
	O2 ppm 8.7	8.1
	Cond. 349	346
	Temp(C) 20.0	20.5
6	pH 8.5	8.5
	O2 ppm 8.7	8.1
	Cond. 325	325
	Temp(C) 20.0	20.5
Control	pH 8.5	8.5
	O2 ppm 8.8	8.2
	Cond. 299	305
	Temp(C) 20.0	20.5

TOXICITY TEST REPORT Sample: 03900303

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Boiler House Sewer #2, (1200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 04/16/90
Received : 04/17/90
Tested : 04/18/90 at: 950

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 24:00 48:00	%
100	0 0 0	0
50	0 0 0	0
25	0 0 0	0
13	0 0 0	0
6	0 0 0	0
Control	0 0 0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900303

TEST
CONC.
% E L A P S E D T I M E
00:00 24:00 48:00

100	pH O2 ppm Cond. Temp(C)	8.3 9.0 758 19.0	20.0	19.5	8.2 8.8 760
50	pH O2 ppm Cond. Temp(C)	8.2 9.0 521 19.0	20.0	19.5	8.2 8.8 523
25	pH O2 ppm Cond. Temp(C)	8.3 9.0 410 19.0	20.0	19.5	8.3 8.9 412
13	pH O2 ppm Cond. Temp(C)	8.4 8.9 361 19.0	20.0	19.5	8.3 8.9 363
6	pH O2 ppm Cond. Temp(C)	8.4 9.0 331 19.0	20.0	19.5	8.3 9.0 334
Control	pH O2 ppm Cond. Temp(C)	8.4 8.9 302 19.0	20.0	19.5	8.4 8.8 306

MISA Daphnia

TOXICITY TEST REPORT

Sample: 02900110

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Boiler House Sewer #2, (1200)
Laboratory : MOE
Sampling Method : Grab
Sampled By : M. Smithson
Date Collected : 06/13/90
Received : 06/14/90
Tested : 06/15/90 at: 1100
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	24:00 48:00	%
100	0	0	0	0	0	0
60	0	0	0	0	0	0
30	0	0	0	0	0	0
15	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit; Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 02900110

TEST CONC.	E L A P S E D T I M E				
%	00:00	01:00	02:00	04:00	24:00 48:00
100	pH 7.8 O2 ppm 8.2 Cond. 630 Temp(C) 20.0				8.0 8.5 640 20.0
60	pH 7.8 O2 ppm 8.7 Cond. 500 Temp(C) 20.0				8.0 8.5 500 20.0
30	pH 7.9 O2 ppm 8.8 Cond. 410 Temp(C) 20.0				7.9 8.5 415 20.0
15	pH 7.9 O2 ppm 8.8 Cond. 355 Temp(C) 20.0				7.9 8.6 365 20.0
5	pH 7.9 O2 ppm 8.8 Cond. 320 Temp(C) 20.0				7.9 8.5 325 20.0
Control	pH 7.8 O2 ppm 8.7 Cond. 285 Temp(C) 20.0				7.9 8.5 290 20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900624

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Boiler House Sewer #2, (1200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 07/23/90
Received : 07/24/90
Tested : 07/25/90 at: 1355

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	1	8
13	0	2	16
6	0	1	8
Control	0	0	0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900624

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.0 O2 ppm 8.9 Cond. 610 Temp(C) 21.0	8.0 8.9 610 21.0	20.5 20.5 21.0
50	pH 8.1 O2 ppm 9.0 Cond. 459 Temp(C) 21.0	8.1 9.0 459 21.0	8.1 8.2 462 21.0
25	pH 8.2 O2 ppm 9.0 Cond. 378 Temp(C) 21.0	8.2 9.0 378 21.0	8.2 8.4 380 21.0
13	pH 8.2 O2 ppm 9.1 Cond. 341 Temp(C) 21.0	8.2 9.1 341 21.0	8.2 8.4 345 21.0
6	pH 8.3 O2 ppm 9.0 Cond. 314 Temp(C) 21.0	8.3 9.0 314 21.0	8.3 8.4 322 21.0
Control	pH 8.3 O2 ppm 9.2 Cond. 300 Temp(C) 21.0	8.3 9.2 300 21.0	8.3 8.3 302 21.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900922

TEST CONDITIONS

Company : Dofasco
Hamilton, ONT
(1460005)
Region : West Central
Industry : Iron and Steel
Control point : Boiler House Sewer #2, (1200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Ha
Date Collected : 10/22/90
Received : 10/23/90
Tested : 10/24/90 at: 1150

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	1	8

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900922

TEST CONC. %	E L A P S E D T I M E	
	00:00	24:00 48:00
100	pH 8.1 O2 ppm 9.1 Cond. 533 Temp(C) 20.5	8.1 8.9 557 20.5 20.5 20.0
50	pH 8.2 O2 ppm 9.0 Cond. 419 Temp(C) 20.5	8.2 9.0 422 20.5 20.5 20.0
25	pH 8.2 O2 ppm 9.0 Cond. 360 Temp(C) 20.5	8.2 9.0 357 20.5 20.5 20.0
13	pH 8.3 O2 ppm 9.0 Cond. 331 Temp(C) 20.5	8.3 9.0 328 20.5 20.5 20.0
6	pH 8.3 O2 ppm 9.0 Cond. 313 Temp(C) 20.5	8.3 9.0 315 20.5 20.5 20.0
Control	pH 8.3 O2 ppm 9.1 Cond. 301 Temp(C) 20.5	8.3 8.9 304 20.5 20.5 20.0

COMPANY: Ivaco Rolling Mills, L'Original
(19720408)
SECTOR: Iron and Steel
REGION: Southeast

SUMMARY

The data for three acute lethality trout bioassays conducted on effluent samples collected between November 1989 and July 1990 were submitted by Ivaco Rolling Mills. All three samples, including the Ministry audit sample, collected from the East Discharge Cooling Water effluent, were determined to have been nonlethal to test fish. The single sample of East Discharge FE effluent was also nonlethal.

East Discharge FE

06900115 sampled: 01/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

East Discharge CW

11900001 sampled: 04/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Tap filtered through charcoal and uv.

01900102 sampled: 06/04/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit; Non-lethal

11900035 sampled: 07/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Tap through charcoal and UV

Northeast Discharge

Southeast Discharge

Mill Pond Outlet

Rain Gauge

Intake Water

Ivaco Rolling Mills (continued)

TOXICITY TEST REPORT Sample: 06900115

TEST CONDITIONS

Company : Ivaco Rolling Mills
L'Original, ONT
(19720408)
Region : Southeast
Industry : Iron and Steel

Control point : East Discharge FE, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : BILL BRADLEY
Date Collected : 01/15/90
Received : 01/17/90
Tested : 01/18/90 at: 1430

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
30	0	0	0	0	0	0
50	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

TOXICITY TEST PARAMETERS

Sample Number: 06900115

TEST
CONC.
%

E L A P S E D T I M E

00:00 24:00 48:00 72:00 96:00

Control	pH	7.4	7.7	7.8	7.6	8.1
	O2 ppm	9.2	8.4	8.5	8.2	8.8
	Cond.	365				388
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.7	7.9	8.1	8.0	8.2
	O2 ppm	9.4	8.7	8.6	8.2	8.9
	Cond.	549				516
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	8.1	7.9	8.1	8.0	8.1
	O2 ppm	10.1	7.9	8.5	8.4	8.2
	Cond.	619				648
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	8.4	8.0	7.9	7.9	8.0
	O2 ppm	9.4	8.1	8.2	8.2	8.5
	Cond.	760				776
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	8.8	8.2	8.0	7.9	8.1
	O2 ppm	9.3	8.6	8.0	8.4	8.7
	Cond.	1012				1051
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	9.0	8.1	8.1	8.1	8.2
	O2 ppm	9.9	9.8	8.6	8.8	8.8
	Cond.	1204				1247
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	9.3	8.5	8.1	8.1	8.2
	O2 ppm	9.0	8.9	9.1	8.6	8.4
	Cond.	1629				1710
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 11900001

TEST CONDITIONS

Company : Ivaco Rolling Mills
 L'Original, ONT
 (19720408)
 Region : Southeast
 Industry : Iron and Steel
 Control point : East Discharge CW, (200)
 Laboratory : Parcel Lb
 Sampling Method : Grab
 Sampled By : B. Bradley
 Date Collected : 04/09/90
 Received : 04/09/90
 Tested : 04/12/90 at: 1030

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY		
%	00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00	%	
100	0	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Tap filtered through charcoal and uv.

SLOPE of Mortality Curve :
 LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 11900001

TEST CONC.		E L A P S E D T I M E						
		00:00	01:00	02:00	04:00	24:00	48:00	72:00 96:00
100	pH	9.7						8.1
	O2 ppm	8.6						9.7
	Cond.	3288						3110
80	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0
	pH	9.6						8.0
	O2 ppm	9.0						9.5
40	Cond.	2647						2669
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0
	pH	9.4						7.8
20	O2 ppm	9.5						9.3
	Cond.	1492						1369
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0
10	pH	8.9						7.7
	O2 ppm	9.5						9.4
	Cond.	790						717
5	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0
	pH	8.3						7.6
	O2 ppm	9.6						9.6
Control	Cond.	483						432
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0
	pH	7.8						7.6
	O2 ppm	9.6						9.5
	Cond.	318						280
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0
	pH	7.5						7.5
	O2 ppm	9.5						9.8
	Cond.	180						141
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 01900102

TEST CONDITIONS

Company : Ivaco Rolling Mills
 : L'Original, ONT
 : (19720408)
 Region : Southeast
 Industry : Iron and Steel

Control point : East Discharge CW, (200)

Laboratory : MOE
 Sampling Method : Grab
 Sampled By : P. Taylor
 Date Collected : 06/04/90
 Received : 06/06/90
 Tested : 06/07/90 at: 1300

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish, OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E								TOTAL MORTALITY
%	00:00	00:30	01:00	24:00	46:00	72:00	96:00	%	
100	0	0	0	0	0	0	0	0	
65	0	0	0	0	0	0	0	0	
40	0	0	0	0	0	0	0	0	
30	0	0	0	0	0	0	0	0	
20	0	0	0	0	0	0	0	0	
10	0	0	0	0	0	0	0	0	
Control	0	0	0	0	0	0	0	0	

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit; Non-lethal

SLOPE of Mortality Curve :
 LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 01900102

TEST
CONC.
%

E L A P S E D T I M E

00:00 00:30 01:00 24:00 46:00 72:00 96:00

100	pH O2 ppm Cond. Temp(C)	9.3 8.4 2160 15.0	9.6 8.7 2750 15.0	8.2 9.3 2770 15.0	7.9 9.1 2800 15.0	8.0 9.5 2750 15.0	8.0 9.7 2750 15.0
65	pH O2 ppm Cond. Temp(C)	8.8 9.1 1870 15.0	7.9 9.6 1900 15.0	7.9 9.3 1900 15.0	8.0 9.7 1900 15.0	8.0 9.9 1900 15.0	8.0 9.9 1900 15.0
40	pH O2 ppm Cond. Temp(C)	8.5 8.6 1280 15.0	7.8 9.6 1280 15.0	7.8 9.3 1290 15.0	7.9 9.5 1290 15.0	7.9 9.8 1270 15.0	7.9 9.8 1270 15.0
30	pH O2 ppm Cond. Temp(C)	8.3 9.0 1020 15.0	7.8 9.6 1020 15.0	7.8 9.3 1030 15.0	7.9 9.6 1030 15.0	7.8 9.8 1020 15.0	7.8 9.8 1020 15.0
20	pH O2 ppm Cond. Temp(C)	8.0 9.1 780 15.0	7.8 9.6 780 15.0	7.8 9.2 780 15.0	7.8 9.6 790 15.0	7.8 9.9 780 15.0	7.8 9.9 780 15.0
10	pH O2 ppm Cond. Temp(C)	7.8 9.1 540 15.0	7.8 9.6 540 15.0	7.8 9.3 540 15.0	7.8 9.6 540 15.0	7.8 9.9 540 15.0	7.8 9.9 540 15.0
Control	pH O2 ppm Cond. Temp(C)	7.7 9.3 210 15.0	7.9 9.6 260 15.0	7.8 9.1 260 15.0	7.7 9.7 260 15.0	7.7 9.9 255 15.0	7.7 9.9 255 15.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 11900035

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Ivaco Rolling Mills
 : L'Original, ONT
 : (19720408)
Region : Southeast
Industry : Iron and Steel

Control point : East Discharge CW, (200)

Laboratory : Parcel Lb
Sampling Method : single grab
Sampled By : B. Bradley
Date Collected : 07/10/90
Received : 07/10/90
Tested : 07/12/90 at: 1200

Type of Bioassay : STATIC
 : (Protocol to determine the acute lethality
 : of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00 96:00		%
100	0	0	0
80	0	0	0
40	0	0	0
20	0	0	0
10	0	0	0
5	0	0	0
Control	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Tap through charcoal and UV

Sample Number: 11900035

TEST CONC. % E L A P S E D T I M E
 00:00 96:00

100	pH 9.4 7.9 O2 ppm 8.2 8.4 Cond. 745 706 Temp(C) 15.0 15.0
80	pH 9.2 7.9 O2 ppm 8.9 8.4 Cond. 621 598 Temp(C) 15.0 15.0
40	pH 8.6 7.8 O2 ppm 8.9 8.6 Cond. 359 353 Temp(C) 15.0 15.0
20	pH 8.2 7.7 O2 ppm 8.8 8.4 Cond. 234 231 Temp(C) 15.0 15.0
10	pH 7.8 7.5 O2 ppm 8.9 7.6 Cond. 164 169 Temp(C) 15.0 15.0
5	pH 7.7 7.5 O2 ppm 8.7 8.1 Cond. 135 144 Temp(C) 15.0 15.0
Control	pH 7.6 7.6 O2 ppm 8.7 8.8 Cond. 98 103 Temp(C) 15.0 15.0

COMPANY: Ivaco Rolling Mills, L'Original
(19720408)
SECTOR: Iron and Steel
REGION: Southeast

SUMMARY

Data for three *Daphnia magna* acute lethality toxicity tests conducted on samples of effluent from east discharges (100 and 200) collected between November 1989 and April 1990 were submitted by Ivaco Rolling Mills of L'Original. The sample from the east discharge process effluent taken in January was toxic to *Daphnia* with a 48 h LC50 = 80.6%. The sample from the east discharge cooling water collected in April was not acutely lethal to *Daphnia*. The data submitted for the July sample was returned for resubmission and has not yet been resubmitted. A Ministry audit sample tested in June had an LC50 > 100 %.

East Discharge FE

06900116 sampled: 01/15/90 LC50: 80.6 %
95% fid. limits: 65.0 - 100.0 %
comments: 100% MORTALITY IN FULL STRENGTH EFFLUENT

East Discharge CW

11900006 sampled: 04/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

02900102 sampled: 06/04/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit; Many Floaters; Very High Cond.

11900035 sampled: 07/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

Northeast Discharge

Southeast Discharge

Mill Pond Outlet

Ivaco Rolling Mills (continued)

Rain Gauge

Intake Water

TOXICITY TEST REPORT Sample: 06900116

TEST CONDITIONS

Company : Ivaco Rolling Mills
 L'Original, ONT
 (19720408)
 Region : Southeast
 Industry : Iron and Steel
 Control point : East Discharge FE, (100)
 Laboratory : BEAK
 Sampling Method : GRAB
 Sampled By : BILL BRADLEY
 Date Collected : 01/15/90
 Received : 01/17/90
 Tested : 01/18/90 at: 1500

Type of Bioassay : STATIC
 (Daphnia magna Acute Lethality Toxicity
 Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00 24:00 48:00		%
Control	0	0	0
10	0	0	0
20	0	0	0
30	0	0	0
50	0	0	0
65	0	0	0
100	0	0	100

48 Hour LC50 : 80.6 %

95% fid. limits : 65.0 - 100.0 %

Comments : 100% MORTALITY IN FULL STRENGTH EFFLUENT

SLOPE of Mortality Curve : BINOMIAL
 LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 06900116

TEST CONC.	E L A P S E D T I M E	
%	00:00 24:00 48:00	

Control	pH	8.0	8.3
	O2 ppm	8.5	7.6
	Cond.	395	376
	Temp(C)	20.0	20.0
10	pH	8.4	8.3
	O2 ppm	8.3	8.3
	Cond.	528	521
	Temp(C)	20.0	20.0
20	pH	8.6	8.3
	O2 ppm	8.0	8.4
	Cond.	654	647
	Temp(C)	20.0	20.0
30	pH	8.8	8.3
	O2 ppm	8.3	8.1
	Cond.	810	793
	Temp(C)	20.0	20.0
50	pH	9.1	8.4
	O2 ppm	8.5	7.9
	Cond.	1049	1029
	Temp(C)	20.0	20.0
65	pH	9.2	8.5
	O2 ppm	8.9	7.8
	Cond.	1245	1238
	Temp(C)	20.0	20.0
100	pH	9.5	8.7
	O2 ppm	9.2	7.7
	Cond.	1703	1711
	Temp(C)	20.0	20.0

MISA Dephnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 11900006

TEST CONDITIONS

Company : Ivaco Rolling Mills
 : L'Original, ONT
 : (19720408)
Region : Southeast
Industry : Iron and Steel
Control point : East Discharge CW, (200)

Laboratory : Parcel lb
Sampling Method : grab
Sampled By : B. Bradley
Date Collected : 04/09/90
Received : 04/09/90
Tested : 04/11/90 at: 1430

Type of Bioassay : STATIC
 : (Daphnia magna Acute Lethality Toxicity
 : Test Protocol. ONE, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	ELAPSED TIME	TOTAL MORTALITY %
100	0	00:00 48:00	0
60	0		0
30	0		0
15	0		0
5	0		0
Control	0		0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 11900006
TEST CONC. %
ELAPSED TIME
00:00 48:00

100	pH 9.8 9.2 O2 ppm 9.2 6.3 Cond. 3231 3691 Temp(C) 20.0 20.0
60	pH 9.5 8.7 O2 ppm 9.0 6.9 Cond. 2138 2410 Temp(C) 20.0 20.0
30	pH 9.2 8.2 O2 ppm 8.9 6.9 Cond. 1283 1458 Temp(C) 20.0 20.0
15	pH 8.9 8.0 O2 ppm 8.8 6.9 Cond. 833 967 Temp(C) 20.0 20.0
5	pH 8.5 7.9 O2 ppm 8.8 6.7 Cond. 546 663 Temp(C) 20.0 20.0
Control	pH 8.1 7.8 O2 ppm 8.7 6.7 Cond. 405 535 Temp(C) 20.0 20.0

TOXICITY TEST REPORT Sample: 02900102

TEST CONDITIONS

Company : Ivaco Rolling Mills
 L/Original, ONT
 (19720408)
 Region : Southeast
 Industry : Iron and Steel
 Control point : East Discharge CW, (200)

Laboratory : MOE
 Sampling Method : Grab
 Sampled By : P. Taylor
 Date Collected : 06/04/90
 Received : 06/06/90 at: 1300
 Tested : 06/06/90

Type of Bioassay : STATIC
 (Daphnia magna Acute Lethality Toxicity
 Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	00:30	01:00	02:00	24:00 48:00	%
100	0	0	0	0	0	8
60	0	0	0	0	0	0
30	0	0	0	0	0	0
15	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit; Many Floaters; Very High Cond.

TOXICITY TEST PARAMETERS

Sample Number: 02900102

TEST CONC. %	E L A P S E D T I M E				
	00:00	00:30	01:00	02:00	24:00 48:00
100	pH 9.3				8.8
	O2 ppm 8.2				8.2
	Cond. 3200				3160
	Temp(C) 20.0				20.0
60	pH 9.0				8.6
	O2 ppm 8.6				8.4
	Cond. 1980				1980
	Temp(C) 20.0				20.0
30	pH 8.7				8.3
	O2 ppm 8.7				8.6
	Cond. 1150				1150
	Temp(C) 20.0				20.0
15	pH 8.4				8.0
	O2 ppm 8.8				8.7
	Cond. 705				715
	Temp(C) 20.0				20.0
5	pH 8.0				7.8
	O2 ppm 8.8				8.6
	Cond. 460				455
	Temp(C) 20.0				20.0
Control	pH 7.7				7.7
	O2 ppm 8.8				8.6
	Cond. 280				280
	Temp(C) 20.0				20.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 11900035

TEST CONDITIONS

Company : Ivaco Rolling Mills
L/Original, ONT
(19720408)
Region : Southeast
Industry : Iron and Steel
Control point : East Discharge CW, (200)
Laboratory : Parcel Lb
Sampling Method : single grab
Sampled By : B. Bradley
Date Collected : 07/10/90
Received : 07/10/90
Tested : 07/11/90 at: 1200

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol, OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 48:00	%
100	0 0	0
60	0 0	0
30	0 0	0
15	0 0	0
5	0 0	0
Control	0 0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 11900035

TEST CONC. %	E L A P S E D T I M E
	00:00 48:00
100	pH 9.5 8.3 O2 ppm 8.5 6.5 Cond. 764 781 Temp(C) 20.0 20.0
60	pH 9.2 7.9 O2 ppm 8.7 6.2 Cond. 596 624 Temp(C) 20.0 20.0
30	pH 8.9 7.7 O2 ppm 8.8 5.8 Cond. 472 508 Temp(C) 20.0 20.0
15	pH 8.5 7.7 O2 ppm 9.0 5.8 Cond. 405 441 Temp(C) 20.0 20.0
5	pH 8.2 7.6 O2 ppm 9.2 5.4 Cond. 361 415 Temp(C) 20.0 20.0
Control	pH 8.0 7.7 O2 ppm 9.3 5.9 Cond. 329 384 Temp(C) 20.0 20.0

COMPANY: Lasco, Whitby
(26890301)
SECTOR: Iron and Steel
REGION: Central

SUMMARY

The data for twelve acute lethality trout bioassays conducted on samples of final effluent collected between November 1989 and October 1990 were submitted by LASCO. All twelve samples have not been included in the database after an inspection of their contract laboratory revealed the tests were not conducted according to Ministry protocol. Two Ministry audit samples, collected in March and August, were determined to have been nonlethal to test fish.

South Pond

01900036 sampled: 03/12/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA audit sample.

01900164 sampled: 08/01/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit; Non-lethal

Storm Water

Waste Disposal Site

Rain Gauge

Intake Water

MISA Trout

TOXICITY TEST REPORT Sample: 01900164

TEST CONDITIONS

Company : Lasco
Whitby, ONT
(26890301)
Region : Central
Industry : Iron and Steel
Control point : South Pond, (100)
Laboratory : MOE
Sampling Method : Grab
Sampled By : C. Rosebush
Date Collected : 08/01/90
Received : 08/01/90
Tested : 08/02/90 at: 1300

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	01:00	24:00	47:00	71:00	96:00
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
30	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit; Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 01900164

TEST CONC. %	E L A P S E D T I M E									
	00:00	01:00	24:00	47:00	71:00	96:00				
100	pH	7.6	7.8	7.7	7.7	7.8	7.7	7.8	7.7	7.7
	O2 ppm	6.5	8.6	9.0	9.1	8.9	8.9	8.9	8.9	8.9
	Cond.	315	335	325	325	340	335	340	335	335
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
65	pH	7.8	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7
	O2 ppm	9.0	9.2	9.3	9.2	9.2	9.1	9.2	9.1	9.1
	Cond.	310	310	305	320	315	315	320	315	315
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
40	pH	7.8	7.7	7.7	7.8	7.8	7.8	7.8	7.8	7.8
	O2 ppm	9.2	9.2	9.2	9.4	9.3	9.2	9.3	9.2	9.2
	Cond.	295	295	295	295	305	305	305	305	305
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
30	pH	7.8	7.8	7.8	7.8	7.9	7.8	7.9	7.8	7.8
	O2 ppm	9.2	9.3	9.3	9.4	9.3	9.1	9.3	9.1	9.1
	Cond.	290	285	285	285	295	295	295	295	295
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
20	pH	7.7	7.7	7.7	7.8	7.8	7.8	7.8	7.8	7.8
	O2 ppm	9.2	9.1	9.3	9.3	9.3	8.9	9.3	8.9	8.9
	Cond.	280	280	280	280	290	295	290	295	295
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
10	pH	7.7	7.7	7.7	7.8	7.8	7.8	7.8	7.8	7.8
	O2 ppm	9.2	8.8	8.8	9.0	9.1	9.0	9.1	9.0	9.0
	Cond.	275	280	280	215	280	285	280	285	285
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Control	pH	7.6	7.3	7.3	7.3	7.7	7.7	7.7	7.7	7.7
	O2 ppm	9.0	7.5	7.5	7.8	9.0	9.0	9.0	9.0	9.0
	Cond.	265	265	265	265	270	270	270	270	270
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0

COMPANY: Lasco, Whitby
(26890301)
SECTOR: Iron and Steel
REGION: Central

SUMMARY

Results for twelve Daphnia magna acute lethality toxicity tests conducted on samples of final effluent collected between November 1989 and October 1990 were submitted by LASCO of Whitby. All 12 samples results were reject after an April 1991 laboratory inspection revealed that the contract lab conducting these tests was not following Ministry protocols. One Ministry audit sample collected in March had a 48 h LC50 > 100 % and one audit conducted in August was not acutely lethal to Daphnia.

South Pond

02900036 sampled: 03/12/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

02900164 sampled: 08/01/90 LC50: 0.0 - 0.0 %
95% fid. limits: 0.0 - 0.0 %
comments: INVALID > 10% Control Mortality

Storm Water

Waste Disposal Site

Rain Gauge

Intake Water

HISA Daphnia

SLOPE of Mortality Curve : None
LC50 Calculated By :

Sample: 02900036

TOXICITY TEST REPORT

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Lasco
Whitby, ONT
(26890301)
Region : Central
Industry : Iron and Steel
Control point : South Pond, (100)
Laboratory : MOE
Sampling Method : Grab
Sampled By : J. Dezaney
Date Collected : 03/12/90
Received : 03/13/90
Tested : 03/14/90 at: 1347

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	01:00	24:00	48:00	%
100	0	0	0	2	16
60	0	0	0	1	8
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : MISA Audit

Sample Number: 02900036

TEST CONC. %
E L A P S E D T I M E
00:00 01:00 24:00 48:00

100	pH 8.6	7.9
	O2 ppm 6.7	7.6
	Cond. 426	431
	Temp(C) 20.0	20.0
60	pH 8.4	7.9
	O2 ppm 8.3	7.7
	Cond. 376	381
	Temp(C) 20.0	20.0
30	pH 8.2	7.9
	O2 ppm 8.7	8.0
	Cond. 340	344
	Temp(C) 20.0	20.0
15	pH 7.9	7.9
	O2 ppm 8.9	8.2
	Cond. 320	324
	Temp(C) 20.0	20.0
5	pH 7.7	7.8
	O2 ppm 8.9	8.1
	Cond. 311	312
	Temp(C) 20.0	20.0
Control	pH 7.5	7.6
	O2 ppm 9.1	8.2
	Cond. 303	303
	Temp(C) 20.0	20.0

TOXICITY TEST REPORT Sample: 02900164

TEST CONDITIONS

Company : Lasco
 : Whitby, ONT
 (26890301)
 Region : Central
 Industry : Iron and Steel
 Control point : South Pond, (100)
 Laboratory : MOE
 Sampling Method : Grab
 Sampled By : C. Nosebrush
 Date Collected : 08/01/90
 Received : 08/01/90
 Tested : 08/02/90 at: 1000

Type of Bioassay : STATIC
 (Daphnia magna Acute Lethality Toxicity
 Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	24:00 48:00	%
100	0	0	0	0	0	8
60	0	0	0	0	0	8
30	0	0	0	0	0	1
15	0	0	0	0	0	1
5	0	0	0	0	0	0
Control	0	0	0	0	0	3
						25

48 Hour LC50 : 0.0 - 0.0 %

95% fid. limits : 0.0 - 0.0 %

Comments : INVALID > 10% Control Mortality

TOXICITY TEST PARAMETERS

Sample Number: 02900164

TEST CONC. %	E L A P S E D T I M E				
	00:00	01:00	02:00	04:00	24:00 48:00
100	pH 7.8				7.7
	O2 ppm 7.2				8.6
	Cond. 205				345
	Temp(C) 20.0				20.0
60	pH 7.9				7.8
	O2 ppm 8.1				8.7
	Cond. 230				330
	Temp(C) 20.0				20.0
30	pH 7.9				7.7
	O2 ppm 8.4				8.9
	Cond. 240				315
	Temp(C) 20.0				20.0
15	pH 7.8				7.7
	O2 ppm 8.5				8.9
	Cond. 295				305
	Temp(C) 20.0				20.0
5	pH 7.7				7.7
	O2 ppm 8.5				8.9
	Cond. 295				300
	Temp(C) 20.0				20.0
Control	pH 7.8				7.7
	O2 ppm 8.5				9.1
	Cond. 290				285
	Temp(C) 20.0				20.0

COMPANY: Stelco Steel Hilton Works, Hamilton
(950006)
SECTOR: Iron and Steel
REGION: West Central

SUMMARY

The data for 76 acute lethality trout bioassays conducted on effluent samples collected between November 1989 to February 1991 were submitted by Stelco Steel Hilton Works. The company was not in operation during August and September, therefore no data have been submitted for these months. All six samples of West Side Open Cut effluent were determined to have been not acutely lethal to test fish. All six samples, as also with the Ministry audit sample, of Northwest Outfall effluent were determined nonlethal. Nine of ten samples of North Outfall were determined nonlethal, while the remaining sample produced a 96 h LC50 > 100 %. All four samples of East Side Filter were determined nonlethal to fish. Three of ten samples collected from the #1 60 " Sewer were determined to have been acutely lethal to test fish. Samples collected in December 1989, February 1990, and March 1990, produced 96 h LC50s of 80.6 %, 54.4 %, and 75.0 % respectively. An audit sample collected from this site was determined to have been nonlethal. Eight of nine samples collected from the # 2 Rod Mill were determined to have been nonlethal, while the sample collected in November had a 96 h LC50 > 100 %. An audit sample collected in March was nonlethal. Five of six samples collected from the 20 inch Mill were determined nonlethal while the sample collected in April 1990 had a 96 h LC50 > 100 %. All three samples of # 2 60 " Sewer effluent, as also with the Ministry audit sample, were determined to have been nonlethal. A single Intake water sample was tested and determined nonlethal to test fish. All eleven samples of East Side Filter Stage 1 effluent, as also with the Ministry audit sample, were determined to have been not acutely lethal to trout. Six of seven samples collected from East Side Filter Stage 2 effluent were determined nonlethal, while the April 1990 sample produced a 96 h LC50 > 100 %. The Ministry audit, sampled during March 1990, was determined nonlethal to test fish.

West Side Open Cut

03900031 sampled: 01/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

01900057 sampled: 03/28/90 LC50: 0.0 - 0.0 %
95% fid. limits: 0.0 - 0.0 %
comments: INVALID - 20% Control Mort. MISA Audit

Stelco Steel Hilton Works (continued)

03900262 sampled: 04/03/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: non lethal

03900350 sampled: 05/01/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900439 sampled: 06/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900591 sampled: 07/11/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; 20% mort @ 100%conc

03900680 sampled: 08/14/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

Northwest Outfall

03900032 sampled: 01/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

01900056 sampled: 03/28/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900263 sampled: 04/03/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single concentration test; non lethal

03900367 sampled: 05/08/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900440 sampled: 06/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900556 sampled: 07/03/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: Single concentration Test; 5% mort @ 100%conc

03900681 sampled: 08/14/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

Stelco Steel Hilton Works (continued)

North Outfall

03890263	sampled: 11/14/89	non-lethal
	95% fid. limits: 0.0 -	0.0 %
	comments: Non lethal	
03890320	sampled: 12/05/89	non-lethal
	95% fid. limits: 0.0 -	0.0 %
	comments: Non-lethal	
03900033	sampled: 01/16/90	LC50: >100 %
	95% fid. limits: 0.0 -	0.0 %
	comments: LC50 >100	
03900088	sampled: 02/06/90	non-lethal
	95% fid. limits: 0.0 -	0.0 %
	comments: Single Concentration Test	
03900175	sampled: 03/06/90	non-lethal
	95% fid. limits: 0.0 -	0.0 %
	comments: Single concentration test; Non lethal	
01900058	sampled: 03/28/90	LC50: 0.0 - 0.0 %
	95% fid. limits: 0.0 -	0.0 %
	comments: INVALID-30% Control Mort. MISA Audit	
03900264	sampled: 04/03/90	non-lethal
	95% fid. limits: 0.0 -	0.0 %
	comments: Single concentration test; non lethal	
03900348	sampled: 05/01/90	non-lethal
	95% fid. limits: 0.0 -	0.0 %
	comments: Non lethal; single concentration test	
03900441	sampled: 06/05/90	non-lethal
	95% fid. limits: 0.0 -	0.0 %
	comments: Single conc. test; non lethal	
03900552	sampled: 07/03/90	non-lethal
	95% fid. limits: 0.0 -	0.0 %
	comments: Single Concentration Test; Non lethal	
03900682	sampled: 08/14/90	non-lethal
	95% fid. limits: 0.0 -	0.0 %
	comments: Single Concentration Test; non-lethal	

Stelco Steel Hilton Works (continued)

East Side Filter

03890319 sampled: 12/05/89 non-lethal
 95% fid. limits: 0.0 - 0.0 %
 comments: Non-lethal

03900028 sampled: 01/16/90 non-lethal
 95% fid. limits: 0.0 - 0.0 %
 comments: Non-lethal

03900086 sampled: 02/06/90 non-lethal
 95% fid. limits: 0.0 - 0.0 %
 comments: Single Concentration Test

03900085 sampled: 02/06/90 non-lethal
 95% fid. limits: 0.0 - 0.0 %
 comments: Single Concentration Test

#1 60 inch Sewer

03890268 sampled: 11/14/89 non-lethal
 95% fid. limits: 0.0 - 0.0 %
 comments: Non lethal

03890318 sampled: 12/05/89 LC50: 80.6 %
 95% fid. limits: 65.0 - 100.0 %
 comments:

03900067 sampled: 01/24/90 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments: LC50 >100

03900091 sampled: 02/06/90 LC50: 54.4 %
 95% fid. limits: 42.4 - 69.6 % slope: 4.6
 comments:

03900176 sampled: 03/06/90 LC50: 75.0 %
 95% fid. limits: 61.4 - 91.4 % slope: 8.1
 comments: Lethal

01900050 sampled: 03/26/90 non-lethal
 95% fid. limits: 0.0 - 0.0 %
 comments: MISA Audit

03900268 sampled: 04/03/90 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments: LC50 >100

03900344 sampled: 05/01/90 non-lethal
 95% fid. limits: 0.0 - 0.0 %
 comments: Non lethal

Stelco Steel Hilton Works (continued)

03900442 sampled: 06/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900551 sampled: 07/03/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900683 sampled: 08/14/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

#2 Rod Mill

03890266 sampled: 11/14/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03890321 sampled: 12/05/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900030 sampled: 01/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900089 sampled: 02/06/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test

03900179 sampled: 03/06/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single test concentration; Non lethal

01900055 sampled: 03/28/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900269 sampled: 04/03/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single concentration test; non lethal

03900343 sampled: 05/01/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

03900443 sampled: 06/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single concentration test; Non lethal

Stelco Steel Hilton Works (continued)

03900550 sampled: 07/03/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; Non lethal

20 inch Mill

03890267 sampled: 11/14/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03890322 sampled: 12/05/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900029 sampled: 01/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900090 sampled: 02/06/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test

03900180 sampled: 03/06/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single test concentration; Non lethal

03900270 sampled: 04/03/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: Single concentration test; 5% mort. @ 100%

#2 60 inch Sewer

01900049 sampled: 03/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900267 sampled: 04/03/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: non lethal

03900557 sampled: 07/03/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900684 sampled: 08/14/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

Stelco Steel Hilton Works (continued)

East Side Filter OW

Rain Gauge

Intake Water

03900189 sampled: 03/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

East Side Filter Stage 1

03890264 sampled: 11/14/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03890323 sampled: 12/05/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Nonlethal

03900027 sampled: 01/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Nonlethal

03900177 sampled: 03/06/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single test concentration; Non lethal

01900053 sampled: 03/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900265 sampled: 04/03/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non lethal

03900345 sampled: 05/01/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

03900444 sampled: 06/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single concentration test; Non lethal

03900554 sampled: 07/03/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; Non lethal

03900685 sampled: 08/14/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

Stelco Steel Hilton Works (continued)

East Side Filter Stage 2

03890265 sampled: 11/14/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900178 sampled: 03/06/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single test concentration; Non lethal

01900052 sampled: 03/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900266 sampled: 04/03/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: Single concentration test; 10% mort. @ 100%

03900346 sampled: 05/01/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

03900445 sampled: 06/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration test; Non lethal

03900555 sampled: 07/03/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single concentration Test; Non lethal

03900686 sampled: 08/14/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

TOXICITY TEST REPORT Sample: 03900031

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)Region : West Central
Industry : Iron and Steel

Control point : West Side Open Cut, (100)

Laboratory

Sampling Method

Sampled By : P. Peidl

Date Collected

Received : 01/16/90

Tested : 01/17/90 at: 1700

Type of Bioassay

: STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal

Weight(gm)

Length(mm)

: Rainbow trout

:

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
65	0	0	0	0	0
40	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900031

TEST CONC.	E L A P S E D T I M E			
%	00:00	24:00	48:00	72:00
	00:00	24:00	48:00	72:00
	00:00	24:00	48:00	96:00

100	pH	8.6			8.1
	O2 ppm	9.9			9.0
	Cond.	755			770
	Temp(C)	15.0	15.0	14.0	14.5
65	pH	8.3			8.3
	O2 ppm	9.6			9.2
	Cond.	685			693
	Temp(C)	15.0	15.0	14.0	14.5
40	pH	8.1			8.3
	O2 ppm	9.3			9.1
	Cond.	633			639
	Temp(C)	15.0	15.0	14.0	14.5
20	pH	8.0			8.4
	O2 ppm	9.3			9.3
	Cond.	590			591
	Temp(C)	15.0	15.0	14.0	14.5
10	pH	8.0			8.3
	O2 ppm	9.2			8.9
	Cond.	572			576
	Temp(C)	15.0	15.0	14.0	14.5
5	pH	7.9			8.4
	O2 ppm	9.0			9.1
	Cond.	560			569
	Temp(C)	15.0	15.0	14.0	14.5
Control	pH	7.9			8.5
	O2 ppm	8.9			9.3
	Cond.	552			558
	Temp(C)	15.0	15.0	14.0	14.5

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

TOXICITY TEST REPORT

Sample Number: 01900057

TEST	ELAPSED TIME
1	0.000000
2	0.000000
3	0.000000
4	0.000000
5	0.000000
6	0.000000
7	0.000000
8	0.000000
9	0.000000
10	0.000000
11	0.000000
12	0.000000
13	0.000000
14	0.000000
15	0.000000
16	0.000000
17	0.000000
18	0.000000
19	0.000000
20	0.000000
21	0.000000
22	0.000000
23	0.000000
24	0.000000
25	0.000000
26	0.000000
27	0.000000
28	0.000000
29	0.000000
30	0.000000
31	0.000000
32	0.000000
33	0.000000
34	0.000000
35	0.000000
36	0.000000
37	0.000000
38	0.000000
39	0.000000
40	0.000000
41	0.000000
42	0.000000
43	0.000000
44	0.000000
45	0.000000
46	0.000000
47	0.000000
48	0.000000
49	0.000000
50	0.000000
51	0.000000
52	0.000000
53	0.000000
54	0.000000
55	0.000000
56	0.000000
57	0.000000
58	0.000000
59	0.000000
60	0.000000
61	0.000000
62	0.000000
63	0.000000
64	0.000000
65	0.000000
66	0.000000
67	0.000000
68	0.000000
69	0.000000
70	0.000000
71	0.000000
72	0.000000
73	0.000000
74	0.000000
75	0.000000
76	0.000000
77	0.000000
78	0.000000
79	0.000000
80	0.000000
81	0.000000
82	0.000000
83	0.000000
84	0.000000
85	0.000000
86	0.000000
87	0.000000
88	0.000000
89	0.000000
90	0.000000
91	0.000000
92	0.000000
93	0.000000
94	0.000000
95	0.000000
96	0.000000
97	0.000000
98	0.000000
99	0.000000
100	0.000000

00:00 01:00 02:00 25:00 46:00 71:00 96:00

100	pH	8.5	8.2	8.1	8.1	8.1	8.0
-----	----	-----	-----	-----	-----	-----	-----

100	pH	8.5	8.2	8.1	8.1	8.1	8.0
-----	----	-----	-----	-----	-----	-----	-----

100	pH	8.5	8.2	8.1	8.1	8.1	8.0
-----	----	-----	-----	-----	-----	-----	-----

100	pH	8.5	8.2	8.1	8.1	8.1	8.0
-----	----	-----	-----	-----	-----	-----	-----

Type of Bioassay : STATIC

Standard (Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY
0.00	10.0	0.0
0.05	10.0	0.0
0.10	10.0	0.0
0.15	10.0	0.0
0.20	10.0	0.0
0.25	10.0	0.0
0.30	10.0	0.0
0.35	10.0	0.0
0.40	10.0	0.0
0.45	10.0	0.0
0.50	10.0	0.0
0.55	10.0	0.0
0.60	10.0	0.0
0.65	10.0	0.0
0.70	10.0	0.0
0.75	10.0	0.0
0.80	10.0	0.0
0.85	10.0	0.0
0.90	10.0	0.0
0.95	10.0	0.0
1.00	10.0	0.0

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY
0.000	10.0	0.0
0.001	10.0	0.0
0.002	10.0	0.0
0.003	10.0	0.0
0.004	10.0	0.0
0.005	10.0	0.0
0.006	10.0	0.0
0.007	10.0	0.0
0.008	10.0	0.0
0.009	10.0	0.0
0.010	10.0	0.0
0.011	10.0	0.0
0.012	10.0	0.0
0.013	10.0	0.0
0.014	10.0	0.0
0.015	10.0	0.0
0.016	10.0	0.0
0.017	10.0	0.0
0.018	10.0	0.0
0.019	10.0	0.0
0.020	10.0	0.0
0.021	10.0	0.0
0.022	10.0	0.0
0.023	10.0	0.0
0.024	10.0	0.0
0.025	10.0	0.0
0.026	10.0	0.0
0.027	10.0	0.0
0.028	10.0	0.0
0.029	10.0	0.0
0.030	10.0	0.0
0.031	10.0	0.0
0.032	10.0	0.0
0.033	10.0	0.0
0.034	10.0	0.0
0.035	10.0	0.0
0.036	10.0	0.0
0.037	10.0	0.0
0.038	10.0	0.0
0.039	10.0	0.0
0.040	10.0	0.0
0.041	10.0	0.0
0.042	10.0	0.0
0.043	10.0	0.0
0.044	10.0	0.0
0.045	10.0	0.0
0.046	10.0	0.0
0.047	10.0	0.0
0.048	10.0	0.0
0.049	10.0	0.0
0.050	10.0	0.0
0.051	10.0	0.0
0.052	10.0	0.0
0.053	10.0	0.0
0.054	10.0	0.0
0.055	10.0	0.0
0.056	10.0	0.0
0.057	10.0	0.0
0.058	10.0	0.0
0.059	10.0	0.0
0.060	10.0	0.0
0.061	10.0	0.0
0.062	10.0	0.0
0.063	10.0	0.0
0.064	10.0	0.0
0.065	10.0	0.0
0.066	10.0	0.0
0.067	10.0	0.0
0.068	10.0	0.0
0.069	10.0	0.0
0.070	10.0	0.0
0.071	10.0	0.0
0.072	10.0	0.0
0.073	10.0	0.0
0.074	10.0	0.0
0.075	10.0	0.0
0.076	10.0	0.0
0.077	10.0	0.0
0.078	10.0	0.0
0.079	10.0	0.0
0.080	10.0	0.0
0.081	10.0	0.0
0.082	10.0	0.0
0.083	10.0	0.0
0.084	10.0	0.0
0.085	10.0	0.0
0.086	10.0	0.0
0.087	10.0	0.0
0.088	10.0	0.0
0.089	10.0	0.0
0.090	10.0	0.0
0.091	10.0	0.0
0.092	10.0	0.0
0.093	10.0	0.0
0.094	10.0	0.0
0.095	10.0	0.0
0.096	10.0	0.0
0.097	10.0	0.0
0.098	10.0	0.0
0.099	10.0	0.0
0.100	10.0	0.0

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY
0.000	10.0	0.0
0.001	10.0	0.0
0.002	10.0	0.0
0.005	10.0	0.0
0.010	10.0	0.0
0.020	10.0	0.0
0.050	10.0	0.0
0.100	10.0	0.0
0.200	10.0	0.0
0.500	10.0	0.0
1.000	10.0	0.0
2.000	10.0	0.0
5.000	10.0	0.0
10.000	10.0	0.0
20.000	10.0	0.0
50.000	10.0	0.0
100.000	10.0	0.0
200.000	10.0	0.0
500.000	10.0	0.0
1000.000	10.0	0.0
2000.000	10.0	0.0
5000.000	10.0	0.0
10000.000	10.0	0.0
20000.000	10.0	0.0
50000.000	10.0	0.0
100000.000	10.0	0.0
200000.000	10.0	0.0
500000.000	10.0	0.0
1000000.000	10.0	0.0
2000000.000	10.0	0.0
5000000.000	10.0	0.0
10000000.000	10.0	0.0
20000000.000	10.0	0.0
50000000.000	10.0	0.0
100000000.000	10.0	0.0
200000000.000	10.0	0.0
500000000.000	10.0	0.0
1000000000.000	10.0	0.0
2000000000.000	10.0	0.0
5000000000.000	10.0	0.0
10000000000.000	10.0	0.0
20000000000.000	10.0	0.0
50000000000.000	10.0	0.0
100000000000.000	10.0	0.0
200000000000.000	10.0	0.0
500000000000.000	10.0	0.0
1000000000000.000	10.0	0.0
2000000000000.000	10.0	0.0
5000000000000.000	10.0	0.0
10000000000000.000	10.0	0.0
20000000000000.000	10.0	0.0
50000000000000.000	10.0	0.0
100000000000000.000	10.0	0.0
200000000000000.000	10.0	0.0
500000000000000.000	10.0	0.0
1000000000000000.000	10.0	0.0
2000000000000000.000	10.0	0.0
5000000000000000.000	10.0	0.0
10000000000000000.000	10.0	0.0
20000000000000000.000	10.0	0.0
50000000000000000.000	10.0	0.0
100000000000000000.000	10.0	0.0
200000000000000000.000	10.0	0.0
500000000000000000.000	10.0	0.0
1000000000000000000.000	10.0	0.0
2000000000000000000.000	10.0	0.0
5000000000000000000.000	10.0	0.0
10000000000000000000.000	10.0	0.0
20000000000000000000.000	10.0	0.0
50000000000000000000.000	10.0	0.0
100000000000000000000.000	10.0	0.0
200000000000000000000.000	10.0	0.0
500000000000000000000.000	10.0	0.0
1000000000000000000000.000	10.0	0.0
2000000000000000000000.000	10.0	0.0
5000000000000000000000.000	10.0	0.0
10000000000000000000000.000	10.0	0.0
20000000000000000000000.000	10.0	0.0
50000000000000000000000.000	10.0	0.0
100000000000000000000000.000	10.0	0.0
200000000000000000000000.000	10.0	0.0
500000000000000000000000.000	10.0	0.0
1000000000000000000000000.000	10.0	0.0
2000000000000000000000000.000	10.0	0.0
5000000000000000000000000.000	10.0	0.0

96 Hour LC50	:	0.0 -	0.0
%			

95% fid. limits : 0.0 - 0.0 x

Comments	: INVALID - 20% Control Mort.	HISA Audit

MISA Trout

TOXICITY TEST REPORT Sample: 03900262

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : West Side Open Cut, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 04/03/90
Received : 04/03/90
Tested : 04/04/90 at: 1425

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
65	0	0	0	0	0
40	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900262

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH 8.6 O2 ppm 9.6 Cond. 953 Temp(C) 15.0	14.5	15.0	14.5 14.0
65	pH 8.3 O2 ppm 9.4 Cond. 808 Temp(C) 15.0	14.5	15.0	14.5 14.0
40	pH 8.1 O2 ppm 9.3 Cond. 704 Temp(C) 15.0	14.5	15.0	14.5 14.0
20	pH 7.9 O2 ppm 9.4 Cond. 621 Temp(C) 15.0	14.5	15.0	14.5 14.0
10	pH 7.9 O2 ppm 9.1 Cond. 568 Temp(C) 15.0	14.5	15.0	14.5 14.0
5	pH 7.9 O2 ppm 8.9 Cond. 556 Temp(C) 15.0	14.5	15.0	14.5 14.0
Control	pH 7.9 O2 ppm 8.9 Cond. 538 Temp(C) 15.0	14.5	15.0	14.5 14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900350

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)

Region : West Central
Industry : Iron and Steel

Control point : West Side Open Cut, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Johnston
Date Collected : 05/01/90
Received : 05/01/90
Tested : 05/02/90 at: 1355

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900350

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00
100	pH 8.2 O2 ppm 9.8 Cond. 831 Temp(C) 15.5	8.2 9.8 831 15.5	15.0 15.0 15.0 14.5	14.5 14.5 14.5 14.5	8.2 9.8 836 14.5
65	pH 8.2 O2 ppm 9.9 Cond. 728 Temp(C) 15.5	8.2 9.9 728 15.5	15.0 15.0 15.0 14.5	14.5 14.5 14.5 14.5	8.2 9.7 731 14.5
40	pH 8.1 O2 ppm 9.9 Cond. 654 Temp(C) 15.5	8.1 9.9 654 15.5	15.0 15.0 15.0 14.5	14.5 14.5 14.5 14.5	8.5 9.7 657 14.5
20	pH 8.0 O2 ppm 9.9 Cond. 603 Temp(C) 15.5	8.0 9.9 603 15.5	15.0 15.0 15.0 14.5	14.5 14.5 14.5 14.5	8.5 9.7 605 14.5
10	pH 8.0 O2 ppm 9.8 Cond. 574 Temp(C) 15.5	8.0 9.8 574 15.5	15.0 15.0 15.0 14.5	14.5 14.5 14.5 14.5	8.5 9.9 567 14.5
5	pH 8.0 O2 ppm 9.9 Cond. 562 Temp(C) 15.5	8.0 9.9 562 15.5	15.0 15.0 15.0 14.5	14.5 14.5 14.5 14.5	8.5 9.9 560 14.5
Control	pH 8.0 O2 ppm 9.2 Cond. 546 Temp(C) 15.8	8.0 9.2 546 15.8	15.0 15.0 15.0 14.5	14.5 14.5 14.5 14.5	8.4 9.6 503 14.5

TOXICITY TEST REPORT Sample: 03900439

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel

Control point : West Side Open Cut, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 06/05/90
Received : 06/05/90
Tested : 06/06/90 at: 1205

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900439

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00
100	pH 8.1 O2 ppm 9.1 Cond. 787 Temp(C) 15.0	15.5	15.5	16.0	16.0
65	pH 8.0 O2 ppm 9.0 Cond. 702 Temp(C) 15.0	15.5	15.5	16.0	16.0
40	pH 8.0 O2 ppm 8.8 Cond. 640 Temp(C) 15.0	15.5	15.5	16.0	16.0
20	pH 7.9 O2 ppm 8.8 Cond. 592 Temp(C) 15.0	15.5	15.5	16.0	16.0
10	pH 7.9 O2 ppm 8.8 Cond. 569 Temp(C) 15.0	15.5	15.5	16.0	16.0
5	pH 7.8 O2 ppm 8.4 Cond. 557 Temp(C) 15.0	15.5	15.5	16.0	16.0
Control	pH 7.8 O2 ppm 8.5 Cond. 542 Temp(C) 15.0	15.5	15.5	16.0	16.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900591

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)

Region : West Central
Industry : Iron and Steel

Control point : West Side Open Cut, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 07/11/90
Received : 07/12/90
Tested : 07/12/90 at: 1320

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. ONE, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	1	1	2	2	20
100	0	1	1	2	2	20
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; 20% mort @ 100% conc

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900591

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00

100	pH	8.1			8.1
	O2 ppm	9.2			8.9
	Cond.	708			725
	Temp(C)	15.5	15.0	15.5	15.0
100	pH	8.1			8.1
	O2 ppm	9.2			8.8
	Cond.	708			716
	Temp(C)	15.5	15.0	15.5	15.0
Control	pH	7.9			8.2
	O2 ppm	8.7			8.5
	Cond.	539			549
	Temp(C)	15.5	15.0	15.5	15.0
Control	pH	7.9			8.3
	O2 ppm	8.7			8.8
	Cond.	539			558
	Temp(C)	15.5	15.0	15.5	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900680

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : West Side Open Cut, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Hibberd
Date Collected : 08/14/90
Received : 08/14/90
Tested : 08/15/90 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test; non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900680

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH	8.4			8.1
	O2 ppm	8.9			9.3
	Cond.	1092			1111
100	Temp(C)	16.0	15.5	16.0	15.5
	pH	8.4			8.1
	O2 ppm	8.9			9.4
Control	Cond.	1092			1111
	Temp(C)	16.0	15.5	16.0	15.5
Control	pH	7.8			8.3
	O2 ppm	8.3			9.1
	Cond.	529			539
Control	Temp(C)	16.0	15.5	16.0	15.5
	pH	7.8			8.3
	O2 ppm	8.3			9.2
Control	Cond.	529			535
	Temp(C)	16.0	15.5	16.0	15.5

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900032

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)

Region : West Central
Industry : Iron and Steel

Control point : Northwest Outfall, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 01/16/90
Received : 01/16/90
Tested : 01/17/90 at: 1700

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

Sample Number: 03900032

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00 72:00 96:00

100	pH 8.1 O2 ppm 9.9 Cond. 810 Temp(C) 15.0	15.0	15.0	14.0	14.0	14.5	8.0 9.1 630
65	pH 8.0 O2 ppm 9.6 Cond. 584 Temp(C) 15.0	8.3 8.9 603	15.0	15.0	14.0	14.5	8.3 8.9 603
40	pH 8.0 O2 ppm 9.5 Cond. 569 Temp(C) 15.0	8.3 8.9 585	15.0	15.0	14.0	14.5	8.3 8.9 585
20	pH 8.0 O2 ppm 9.3 Cond. 556 Temp(C) 15.0	8.1 8.3 573	15.0	15.0	14.0	14.5	8.1 8.3 573
10	pH 7.9 O2 ppm 9.3 Cond. 554 Temp(C) 15.0	8.3 8.6 560	15.0	15.0	14.0	14.5	8.3 8.6 560
5	pH 7.9 O2 ppm 9.3 Cond. 552 Temp(C) 15.0	8.4 8.6 555	15.0	15.0	14.0	14.5	8.4 8.6 555
Control	pH 7.9 O2 ppm 9.3 Cond. 550 Temp(C) 15.0	8.4 8.8 553	15.0	15.0	14.0	14.5	8.4 8.8 553

TOXICITY TEST REPORT Sample: 01900056

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : Northwest Outfall, (200)
Laboratory : MOE
Sampling Method : Grab
Sampled By : M. Smithson
Date Collected : 03/28/90
Received : 03/29/90
Tested : 04/01/90 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E										TOTAL MORTALITY
%	00:00	00:30	01:00	02:00	04:00	04:00	23:30	45:30	70:30	96:00	%
100	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 01900056

TEST E L A P S E D T I M E
CONC. %

		00:00	00:30	01:00	02:00	04:00	23:30	45:30	70:30	96:00
100	pH	8.2	7.9	7.9	7.9	7.9	7.9	7.9	7.9	8.
	O2 ppm	10.6	10.1	9.7	9.9	10.0	9.7	9.9	10.0	10.
	Cond.	500	540	540	525	540	540	525	540	52
65	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.
	pH	7.9	7.9	8.0	7.9	8.0	7.9	7.9	8.0	8.
	O2 ppm	10.3	10.3	9.7	10.0	10.0	9.7	9.9	10.0	10.
40	Cond.	445	445	445	450	445	445	450	450	42
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.
30	pH	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.
	O2 ppm	10.1	10.1	9.9	9.9	10.	9.7	9.9	9.9	10.
	Cond.	380	380	370	370	380	380	370	380	36
20	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.
	pH	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.
	O2 ppm	10.3	10.3	10.1	10.1	10.0	9.8	10.1	10.0	10.
10	Cond.	350	350	350	345	380	350	345	380	34
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.
Control	pH	8.0	8.0	7.9	7.9	7.9	7.9	7.8	7.9	7.
	O2 ppm	10.2	10.2	10.1	10.0	10.0	9.8	9.9	10.0	10.
	Cond.	320	320	315	315	320	320	285	300	29
Control	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.
	pH	7.7	7.7	7.9	7.8	7.9	7.9	7.8	7.9	7.
	O2 ppm	10.3	10.3	9.8	9.9	10.0	9.8	9.9	10.0	10.
Control	Cond.	275	275	270	270	275	270	270	275	26
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.

MISA Trout

TOXICITY TEST REPORT Sample: 03900263

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : Northwest Outfall, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 04/03/90
Received : 04/03/90
Tested : 04/04/90 at: 1120

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. DME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single concentration test; non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900263

TEST CONC. % E L A P S E D T I M E
00:00 24:00 48:00 72:00 96:00

100	pH 8.5 O2 ppm 9.7 Cond. 741 Temp(C) 15.0	14.5	14.0	14.5	14.0
100	pH 8.5 O2 ppm 9.7 Cond. 741 Temp(C) 15.0	14.5	14.0	14.5	14.0
Control	pH 7.9 O2 ppm 9.1 Cond. 527 Temp(C) 15.0	14.5	14.0	14.5	14.0
Control	pH 7.9 O2 ppm 9.1 Cond. 527 Temp(C) 15.0	14.5	14.0	14.5	14.0

TOXICITY TEST REPORT Sample: 03900367

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel

Control point : Northwest Outfall, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Piedi
Date Collected : 05/08/90
Received : 05/08/90
Tested : 05/09/90 at: 1250

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900367

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.1 O2 ppm 9.6 Cond. 776 Temp(C) 15.0	16.0	15.0	14.0	8.2 9.4 763 14.0
65	pH 8.0 O2 ppm 9.4 Cond. 694 Temp(C) 15.0	16.0	15.0	14.0	8.4 9.5 686 14.0
40	pH 7.9 O2 ppm 9.0 Cond. 636 Temp(C) 15.0	16.0	15.0	14.0	8.5 9.5 623 14.0
20	pH 7.9 O2 ppm 8.9 Cond. 593 Temp(C) 15.0	16.0	15.0	14.0	8.4 9.1 582 14.0
10	pH 7.9 O2 ppm 9.0 Cond. 569 Temp(C) 15.0	16.0	15.0	14.0	8.4 9.1 559 14.0
5	pH 7.9 O2 ppm 9.0 Cond. 559 Temp(C) 15.0	16.0	15.0	14.0	8.5 9.6 547 14.0
Control	pH 7.9 O2 ppm 8.8 Cond. 548 Temp(C) 15.0	16.0	15.0	14.0	8.5 9.6 526 14.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT

Sample: 03900440

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : Northwest Outfall, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 06/05/90
Received : 06/05/90
Tested : 06/06/90 at: 1325

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900440

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.1 O2 ppm 9.1 Cond. 734 Temp(C) 15.0	15.5	15.0	16.0	8.0 8.6 725 15.5
65	pH 8.0 O2 ppm 9.0 Cond. 670 Temp(C) 15.0	15.5	15.0	16.0	8.1 8.5 658 15.5
40	pH 7.9 O2 ppm 8.8 Cond. 620 Temp(C) 15.0	15.5	15.0	16.0	8.1 8.4 613 15.5
20	pH 7.9 O2 ppm 8.8 Cond. 584 Temp(C) 15.0	15.5	15.0	16.0	8.3 8.2 577 15.5
10	pH 7.9 O2 ppm 8.4 Cond. 563 Temp(C) 15.0	15.5	15.0	16.0	8.3 8.1 557 15.5
5	pH 7.8 O2 ppm 8.4 Cond. 555 Temp(C) 15.0	15.5	15.0	16.0	8.1 7.4 551 15.5
Control	pH 7.8 O2 ppm 8.3 Cond. 546 Temp(C) 15.0	15.5	15.0	16.0	8.3 8.5 540 15.5

TOXICITY TEST REPORT Sample: 03900556

TEST CONDITIONS

Company : Stelco Steel, Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel

Control point : Northwest Outfall, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 07/03/90
Received : 07/03/90
Tested : 07/04/90 at: 1555

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	1	1	1	10
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : Single concentration Test; 5% mort @ 100%conc

TOXICITY TEST PARAMETERS

Sample Number: 03900556

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.0 O2 ppm 9.4 Cond. 682 Temp(C) 15.5				7.8 8.8 660 15.5
100	pH 8.0 O2 ppm 9.4 Cond. 682 Temp(C) 15.5		15.0 15.5 16.0		7.6 8.1 663 15.5
Control	pH 7.9 O2 ppm 9.7 Cond. 536 Temp(C) 15.5		15.0 15.5 16.0		8.2 8.9 527 15.5
Control	pH 7.9 O2 ppm 9.7 Cond. 536 Temp(C) 15.5		15.0 15.5 16.0		8.2 8.9 531 15.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900681

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : Northwest Outfall, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Hibberd
Date Collected : 08/14/90
Received : 08/14/90
Tested : 08/15/90 at: 1205

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900681

TEST CONC.	ELAPSED TIME				
%	00:00	24:00	48:00	72:00	96:00

100	pH	8.3			8.0
	O2 ppm	8.9			9.2
	Cond.	593			609
	Temp(C)	16.0	15.5	16.0	15.5
100	pH	8.3			7.9
	O2 ppm	8.9			8.9
	Cond.	593			608
	Temp(C)	16.0	15.5	16.0	15.5
Control	pH	7.8			8.3
	O2 ppm	8.0			9.0
	Cond.	533			540
	Temp(C)	16.0	15.5	16.0	15.5
Control	pH	7.8			8.3
	O2 ppm	8.0			9.0
	Cond.	533			540
	Temp(C)	16.0	15.5	16.0	15.5

TOXICITY TEST REPORT Sample: 03890263

TEST CONDITIONS

Company : Stelco Steel Hilton Works

Hamilton, ONT
(950006)

Region : West Central

Industry : Iron and Steel

Control point : North Outfall, (400)

Laboratory : BAR

Sampling Method : Grab

Sampled By : P. Peidl

Date Collected : 11/14/89

Received : 11/14/89

Tested : 11/16/89 at: 1000

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890263

TEST CONC. %	E L A P S E D T I M E					
	00:00	04:00	24:00	48:00	72:00	96:00

Control	pH	7.9				8.4
	O2 ppm	8.9				9.2
	Cond.	563				563
	Temp(C)	15.5	14.5	14.0	14.0	15.0
10	pH	7.9				8.4
	O2 ppm	9.0				9.1
	Cond.	562				563
	Temp(C)	15.5	14.5	14.0	14.0	15.0
20	pH	7.8				8.4
	O2 ppm	9.0				9.2
	Cond.	559				569
	Temp(C)	15.5	14.5	14.0	14.0	15.0
40	pH	7.9				8.4
	O2 ppm	9.1				9.3
	Cond.	557				572
	Temp(C)	15.5	14.5	14.0	14.0	15.0
65	pH	7.9				8.1
	O2 ppm	9.3				9.0
	Cond.	554				572
	Temp(C)	15.5	14.5	14.0	14.0	15.0
100	pH	8.0				7.8
	O2 ppm	9.6				8.6
	Cond.	553				574
	Temp(C)	15.5	14.5	14.0	14.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890320

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)

Region : West Central
Industry : Iron and Steel

Control point : North Outfall, (400)

Laboratory : EAR

Sampling Method : Grab

Sampled By : P. Peidl

Date Collected : 12/05/89

Received : 12/05/89

Tested : 12/06/89 at: 1200

Type of Bioassay : STATIC

(Protocol to determine the acute lethality of liquid effluents to fish. ONE, 1983).

Test Animal : Rainbow trout

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890320

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00

100	pH	8.0			8.0
	O2 ppm	9.9			9.3
	Cond.	582			600
	Temp(C)	15.0	14.5	14.5	14.5
65	pH	7.8			8.2
	O2 ppm	9.4			9.5
	Cond.	576			587
	Temp(C)	15.0	14.5	14.5	14.5
40	pH	7.7			8.3
	O2 ppm	9.2			9.4
	Cond.	573			574
	Temp(C)	15.0	14.5	14.5	14.5
20	pH	7.7			8.2
	O2 ppm	9.3			9.4
	Cond.	571			580
	Temp(C)	15.0	14.5	14.5	14.5
10	pH	7.7			8.4
	O2 ppm	9.2			9.4
	Cond.	570			563
	Temp(C)	15.0	14.5	14.5	14.5
Control	pH	7.7			8.3
	O2 ppm	8.8			9.1
	Cond.	566			569
	Temp(C)	15.0	14.5	14.5	14.5

TOXICITY TEST REPORT Sample: 03900033

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : North Outfall, (400)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 01/16/90
Received : 01/16/90
Tested : 01/17/90 at: 1700

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	1	1	10
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	1	10

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900033

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.7 O2 ppm 9.2 Cond. 602 Temp(C) 15.0				7.9 8.8 610 14.5
65	pH 8.4 O2 ppm 9.1 Cond. 584 Temp(C) 15.0		15.0	15.0	8.1 8.9 590 14.5
40	pH 8.2 O2 ppm 8.9 Cond. 572 Temp(C) 15.0		15.0	15.0	8.1 8.7 578 14.5
20	pH 8.1 O2 ppm 8.8 Cond. 562 Temp(C) 15.0		15.0	15.0	8.2 8.8 565 14.5
10	pH 8.0 O2 ppm 8.7 Cond. 558 Temp(C) 15.0		15.0	15.0	8.4 9.4 555 14.5
5	pH 7.9 O2 ppm 8.6 Cond. 556 Temp(C) 15.0		15.0	15.0	8.4 9.2 554 14.5
Control	pH 7.9 O2 ppm 8.4 Cond. 554 Temp(C) 15.0		15.0	15.0	8.4 9.2 554 14.5

HISA Trout

TOXICITY TEST REPORT Sample: 03900088

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)

Region : West Central
Industry : Iron and Steel

Control point : North Outfall, (400)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 02/06/90
Received : 02/06/90
Tested : 02/07/90 at: 1200

Type of Bioassay : STATIC

(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	1	1	10
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900088

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00

100	pH	8.7			8.0
	O2 ppm	9.9			8.9
	Cond.	693			698
	Temp(C)	15.0	15.0	15.0	14.0
100	pH	8.7			8.0
	O2 ppm	9.9			8.9
	Cond.	693			698
	Temp(C)	15.0	15.0	15.0	14.0
Control	pH	7.8			8.6
	O2 ppm	8.3			9.5
	Cond.	539			532
	Temp(C)	15.0	15.0	15.0	14.0
Control	pH	7.8			8.5
	O2 ppm	8.3			9.5
	Cond.	539			535
	Temp(C)	15.0	15.0	15.0	14.0

TOXICITY TEST REPORT Sample: 03900175

TEST CONDITIONSCompany : Stelco Steel Hilton Works
Hamilton, ONT
(950006)Region : West Central
Industry : Iron and Steel

Control point : North Outfall, (400)

Laboratory : BAR

Sampling Method : Grab

Sampled By : P. Peidl

Date Collected : 03/06/90

Received : 03/06/90

Tested : 03/07/90 at: 1345

Type of Bioassay

: STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal

Weight(gm)

Length(mm)

: Rainbow trout

:

:

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50

: Non-lethal

95% fid. limits

: 0.0 - 0.0 %

Comments

: Single concentration test; Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900175

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00

100	pH	8.2			8.1
	O2 ppm	11.2			9.3
	Cond.	731			743
	Temp(C)	14.0	14.0	14.0	14.5
100	pH	8.2			8.1
	O2 ppm	11.2			9.1
	Cond.	731			738
	Temp(C)	14.0	14.0	14.0	14.5
Control	pH	7.9			8.4
	O2 ppm	9.2			9.1
	Cond.	538			536
	Temp(C)	14.0	14.0	14.0	14.5
Control	pH	7.9			8.3
	O2 ppm	9.2			8.5
	Cond.	538			538
	Temp(C)	14.0	14.0	14.0	14.5

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 019000058

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : North Outfall, (400)
Laboratory : MOE
Sampling Method : Grab
Sampled By : Mark Smithson
Date Collected : 03/28/90
Received : 03/29/90
Tested : 04/01/90 at: 1200

Type of Bioassay

: STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal
Weight(gm)
Length(mm)

: Rainbow trout
:
:

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	01:00	02:00	25:00	46:00	71:00	96:00	%
100	0	0	3	10	10	10	10	100
65	0	0	0	10	10	10	10	100
40	0	0	0	0	5	8	8	80
30	0	0	0	0	0	0	0	0
20	0	0	0	0	3	4	4	40
10	0	0	0	0	0	2	2	20
Control	0	0	0	0	0	3	3	30

96 Hour LC50 : 0.0 - 0.0 %

95% fid. limits : 0.0 - 0.0 %

Comments : INVALID-30% Control Mort. MISA Audit

Sample Number: 019000058

TEST
CONC.
%
E L A P S E D T I M E
00:00 01:00 02:00 25:00 46:00 71:00 96:00

100	pH O2 ppm Cond. Temp(C)	8.1 10.6 530 15.0	8.1 10.1 520 15.0	8.1 10.0 540 15.0	7.9 9.2 540 15.0	7.6 7.0 530 15.0
65	pH O2 ppm Cond. Temp(C)	8.0 10.4 445 15.0	8.1 9.9 445 15.0	8.0 9.9 435 15.0	7.8 8.8 445 15.0	7.6 7.7 440 15.0
40	pH O2 ppm Cond. Temp(C)	8.8 10.4 380 15.0	8.1 9.8 375 15.0	8.1 10.0 375 15.0	8.8 9.9 375 15.0	8.0 9.9 375 15.0
30	pH O2 ppm Cond. Temp(C)	7.9 10.3 350 15.0	8.0 9.9 350 15.0	7.9 9.9 345 15.0	8.0 10.0 345 15.0	7.9 10.0 345 15.0
20	pH O2 ppm Cond. Temp(C)	7.8 10.3 320 15.0	7.9 9.8 320 15.0	7.9 9.7 315 15.0	7.9 10.0 320 15.0	8.0 9.8 315 15.0
10	pH O2 ppm Cond. Temp(C)	7.9 10.4 280 15.0	8.0 9.9 300 15.0	7.9 9.9 295 15.0	8.0 10.0 300 15.0	7.9 9.9 295 15.0
Control	pH O2 ppm Cond. Temp(C)	7.4 10.4 270 15.0	7.9 9.9 265 15.0	7.9 9.8 260 15.0	8.0 10.0 265 15.0	7.7 9.9 265 15.0

TOXICITY TEST REPORT Sample: 03900264

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : North Outfall, (400)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 04/03/90
Received : 04/03/90
Tested : 04/04/90 at: 1055

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single concentration test; non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900264

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00 72:00 96:00

100	pH O2 ppm Cond. Temp(C)	8.5 10.1 732 15.0	14.5	14.0	14.5	14.0
100	pH O2 ppm Cond. Temp(C)	8.5 10.1 732 15.0	14.5	14.0	14.5	14.0
Control	pH O2 ppm Cond. Temp(C)	7.9 9.1 541 15.0	14.5	14.0	14.5	14.0
Control	pH O2 ppm Cond. Temp(C)	7.9 9.1 541 15.0	14.5	14.0	14.5	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900348

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)

Region : West Central
Industry : Iron and Steel

Control point : North Outfall, (400)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Johnston
Date Collected : 05/01/90
Received : 05/01/90
Tested : 05/02/90 at: 1130

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal; single concentration test

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900348

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00

100	pH 8.3 O2 ppm 10.0 Cond. 760 Temp(C) 15.5	15.0	15.0	15.0	14.5	8.1 9.3 767 15.0
100	pH 8.3 O2 ppm 10.0 Cond. 760 Temp(C) 15.5	15.0	15.0	15.0	14.5	8.1 9.2 773 15.0
Control	pH 7.9 O2 ppm 9.7 Cond. 551 Temp(C) 15.5	15.0	15.0	15.0	14.5	8.3 9.1 560 15.0
Control	pH 7.9 O2 ppm 9.7 Cond. 551 Temp(C) 15.5	15.0	15.0	15.0	14.5	8.3 9.2 538 15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900441

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel

Control point : North Outfall, (400)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 06/05/90
Received : 06/06/90
Tested : 06/06/90 at: 1330

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
100	0	0	0	0	0
Control	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single conc. test; non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900441

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH 8.0 O2 ppm 9.3 Cond. 733 Temp(C) 15.0	15.5	15.0	16.0 15.5
100	pH 8.0 O2 ppm 9.3 Cond. 733 Temp(C) 15.0	15.5	15.0	16.0 15.5
Control	pH 7.8 O2 ppm 8.3 Cond. 545 Temp(C) 15.0	15.5	15.0	16.0 15.5
Control	pH 7.8 O2 ppm 8.3 Cond. 545 Temp(C) 15.0	15.5	15.0	16.0 15.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900552

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)

Region : West Central
Industry : Iron and Steel

Control point : North Outfall, (400)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 07/03/90
Received : 07/03/90
Tested : 07/04/90 at: 1210

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900552

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00

100	pH	8.0			8.1
	O2 ppm	9.8			8.9
	Cond.	697			681
	Temp(C)	15.5	15.0	15.5	16.0
100	pH	8.0			7.7
	O2 ppm	9.8			7.9
	Cond.	697			684
	Temp(C)	15.5	15.0	15.5	16.0
Control	pH	7.8			8.3
	O2 ppm	9.7			9.0
	Cond.	540			528
	Temp(C)	15.5	15.0	15.5	16.0
Control	pH	7.8			8.5
	O2 ppm	9.7			9.1
	Cond.	540			526
	Temp(C)	15.5	15.0	15.5	16.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900682

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel

Control point : North Outfall, (400)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Hibberd
Date Collected : 08/14/90
Received : 08/14/90
Tested : 08/15/90 at: 1225

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
100	0	0	0	0	0
Control	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900682

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH 8.2 O2 ppm 9.2 Cond. 598 Temp(C) 16.0	15.5	16.0	16.0 8.2 9.5 608 15.5
100	pH 8.2 O2 ppm 9.2 Cond. 598 Temp(C) 16.0	15.5	16.0	15.5 8.1 9.4 609 15.5
Control	pH 7.8 O2 ppm 8.1 Cond. 533 Temp(C) 16.0	15.5	16.0	15.5 8.4 9.3 535 15.5
Control	pH 7.8 O2 ppm 8.1 Cond. 533 Temp(C) 16.0	15.5	16.0	15.5 8.4 9.4 535 15.5

MISA Trout

TOXICITY TEST REPORT Sample: 03890319

TEST CONDITIONSCompany : Stelco Steel Hilton Works
Hamilton, ONT
(950006)Region : West Central
Industry : Iron and Steel

Control point : East Side Filter, (601)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 12/05/89
Received : 12/05/89
Tested : 12/06/89 at: 1200Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890319

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00

100	pH	7.7	7.8	7.8	
	O2 ppm	8.8	8.9	8.9	
	Cond.	610	618	618	
	Temp(C)	15.5	14.5	14.5	14.5
65	pH	7.7	8.3	8.3	
	O2 ppm	8.9	9.7	9.7	
	Cond.	596	594	594	
	Temp(C)	15.5	14.5	14.5	14.5
40	pH	7.7	8.3	8.3	
	O2 ppm	8.9	9.6	9.6	
	Cond.	582	580	580	
	Temp(C)	15.5	14.5	14.5	14.5
20	pH	7.7	8.4	8.4	
	O2 ppm	8.8	9.7	9.7	
	Cond.	576	565	565	
	Temp(C)	15.5	14.5	14.5	14.5
10	pH	7.7	8.4	8.4	
	O2 ppm	8.8	9.6	9.6	
	Cond.	571	563	563	
	Temp(C)	15.5	14.5	14.5	14.5
Control	pH	7.6	8.4	8.4	
	O2 ppm	8.9	9.7	9.7	
	Cond.	569	560	560	
	Temp(C)	15.5	14.5	14.5	14.5

TOXICITY TEST REPORT Sample: 03900028

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : East Side Filter, (601)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 01/16/90
Received : 01/16/90
Tested : 01/16/90 at: 1700

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
65	0	0	0	0	0
40	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900028

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH 7.6 O2 ppm 9.6 Cond. 660 Temp(C) 15.0	8.1 9.4 671 14.0		
65	pH 7.8 O2 ppm 9.5 Cond. 620 Temp(C) 15.0	8.2 9.3 626 14.0		
40	pH 7.9 O2 ppm 9.4 Cond. 593 Temp(C) 15.5	8.4 9.2 608 14.0		
20	pH 7.9 O2 ppm 9.3 Cond. 570 Temp(C) 15.5	8.4 9.3 586 14.0		
10	pH 7.9 O2 ppm 9.3 Cond. 563 Temp(C) 16.0	8.5 9.1 568 14.0		
5	pH 7.9 O2 ppm 9.2 Cond. 556 Temp(C) 16.0	8.5 9.0 559 14.0		
Control	pH 7.9 O2 ppm 9.2 Cond. 551 Temp(C) 16.0	8.5 9.3 558 14.0		

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900086

TEST CONDITIONS

Company : Steelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : East Side Filter, (601)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 02/06/90
Received : 02/06/90
Tested : 02/07/90 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test

TOXICITY TEST PARAMETERS

Sample Number: 03900086

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00
100	pH 7.7 O2 ppm 7.4 Cond. 734 Temp(C) 15.0	7.7 7.4 734 15.0	15.0	15.0	15.0
100	pH 7.9 O2 ppm 7.4 Cond. 734 Temp(C) 15.0	7.7 7.4 734 15.0	15.0	15.0	15.0
Control	pH 8.4 O2 ppm 8.3 Cond. 536 Temp(C) 15.0	7.8 8.3 536 15.0	15.0	15.0	15.0
Control	pH 8.4 O2 ppm 8.3 Cond. 536 Temp(C) 15.0	7.8 8.3 536 15.0	15.0	15.0	15.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 039000085

TEST CONDITIONS

Company : Stelco Steel, Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : East Side Filter, (601)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 02/06/90
Received : 02/06/90
Tested : 02/07/90 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
100	0	0	0	0	0
Control	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test

TOXICITY TEST PARAMETERS

Sample Number: 039000085

TEST CONC.	ELAPSED TIME			
%	00:00	24:00	48:00	72:00 96:00
100	pH 7.8 O2 ppm 8.1 Cond. 734 Temp(C) 15.0	15.0	15.0	15.0 14.0
100	pH 7.8 O2 ppm 8.1 Cond. 734 Temp(C) 15.0	15.0	15.0	15.0 14.0
Control	pH 7.8 O2 ppm 8.3 Cond. 535 Temp(C) 15.0	15.0	15.0	15.0 14.0
Control	pH 7.8 O2 ppm 8.3 Cond. 535 Temp(C) 15.0	15.0	15.0	15.0 14.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03890268

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)

Region : West Central
Industry : Iron and Steel

Control point : #1 60 inch Sewer, (602)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 11/14/89
Received : 11/14/89
Tested : 11/16/89 at: 1000

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890268

TEST CONC.	E L A P S E D T I M E					
%	00:00	04:00	24:00	48:00	72:00	96:00

Control	pH	7.8				8.5
	O2 ppm	8.8				9.3
	Cond.	561				561
	Temp(C)	15.5	14.5	15.0	14.0	15.0
10	pH	7.8				8.4
	O2 ppm	9.0				9.2
	Cond.	566				565
	Temp(C)	15.5	14.5	15.0	14.0	15.0
20	pH	7.8				8.4
	O2 ppm	9.0				9.3
	Cond.	574				570
	Temp(C)	15.5	14.5	15.0	14.0	15.0
40	pH	7.7				8.3
	O2 ppm	9.1				9.2
	Cond.	583				586
	Temp(C)	15.5	14.5	15.0	14.0	15.0
65	pH	7.5				8.2
	O2 ppm	9.2				9.3
	Cond.	594				597
	Temp(C)	15.5	14.5	15.0	14.0	15.0
100	pH	6.8				7.4
	O2 ppm	9.3				8.5
	Cond.	611				620
	Temp(C)	15.5	14.5	15.0	14.0	15.0

TOXICITY TEST REPORT Sample: 03890318

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel

Control point : #1 60 inch Sewer, (602)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Feidl
Date Collected : 12/05/89
Received : 12/05/89
Tested : 12/06/89 at: 1130

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	4	8	9	10	100
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : 80.6 %

95% fid. limits : 65.0 - 100.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03890318

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 3.9 O2 ppm 9.7 Cond. 732 Temp(C) 15.0	4.0 10.0 731 15.0	4.0 9.7 714 14.5	4.0 9.7 714 14.5	4.0 9.7 714 14.5
65	pH 6.8 O2 ppm 9.3 Cond. 644 Temp(C) 15.0	6.8 9.3 644 15.0	7.9 9.3 645 14.5	7.9 9.3 645 14.5	7.9 9.3 645 14.5
40	pH 7.2 O2 ppm 9.1 Cond. 615 Temp(C) 15.0	7.2 9.1 615 15.0	8.2 9.4 614 14.5	8.2 9.4 614 14.5	8.2 9.4 614 14.5
20	pH 7.5 O2 ppm 8.7 Cond. 594 Temp(C) 15.0	7.5 8.7 594 15.0	8.2 9.2 590 14.5	8.2 9.2 590 14.5	8.2 9.2 590 14.5
10	pH 7.6 O2 ppm 8.7 Cond. 585 Temp(C) 15.0	7.6 8.7 585 15.0	8.3 9.3 576 14.5	8.3 9.3 576 14.5	8.3 9.3 576 14.5
Control	pH 7.7 O2 ppm 8.8 Cond. 568 Temp(C) 15.0	7.7 8.8 568 15.0	8.2 8.7 567 14.5	8.2 8.7 567 14.5	8.2 8.7 567 14.5

MISA Trout

TOXICITY TEST REPORT Sample: 039000067

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : #1 60 inch Sewer, (602)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 01/24/90
Received : 01/24/90
Tested : 01/25/90 at: 1700

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	1	1	1	10
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 039000067

TEST
CONC.
%
E L A P S E D T I M E
00:00 24:00 48:00 72:00 96:00

100	pH 6.0 O2 ppm 9.8 Cond. 726 Temp(C) 15.0	14.5	14.5	14.5	15.0
65	pH 7.0 O2 ppm 9.3 Cond. 654 Temp(C) 15.0	14.5	14.5	14.5	15.0
40	pH 7.4 O2 ppm 8.7 Cond. 610 Temp(C) 15.0	14.5	14.5	14.5	15.0
20	pH 7.6 O2 ppm 8.4 Cond. 576 Temp(C) 15.0	14.5	14.5	14.5	15.0
10	pH 7.8 O2 ppm 8.2 Cond. 556 Temp(C) 15.0	14.5	14.5	14.5	15.0
5	pH 7.8 O2 ppm 8.5 Cond. 550 Temp(C) 15.0	14.5	14.5	14.5	15.0
Control	pH 7.8 O2 ppm 8.5 Cond. 543 Temp(C) 15.0	14.5	14.5	14.5	15.0

TOXICITY TEST REPORT Sample: 03900091

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : #1 60 inch Sewer, (602)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 02/06/90
Received : 02/06/90
Tested : 02/07/90 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E										TOTAL MORTALITY	
%	00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00	%			
100	0	0	0	10	10	10	10	10	10	10	100	
65	0	0	0	0	0	2	6	6	6	6	60	
40	0	0	0	0	2	2	2	2	2	2	20	
20	0	0	0	0	0	0	0	0	0	0	0	
10	0	0	0	0	0	0	0	0	0	0	0	
5	0	0	0	0	0	0	0	0	0	0	0	
Control	0	0	0	0	0	0	0	0	0	0	0	

96 Hour LC50 : 54.4 %

95% fid. limits : 42.4 - 69.6 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03900091

TEST CONC. %	E L A P S E D T I M E									
	00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00		
100	pH	3.1	3.1							
	O2 ppm	9.7	9.7							
	Cond.	1214	1214							
	Temp(C)	15.0	15.0							
65	pH	6.4	6.4							
	O2 ppm	9.3	9.3							
	Cond.	732	732							
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	14.0
40	pH	7.0	7.0							
	O2 ppm	9.1	9.1							
	Cond.	656	656							
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	14.0
20	pH	7.3	7.3							
	O2 ppm	8.9	8.9							
	Cond.	589	589							
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	14.0
10	pH	7.6	7.6							
	O2 ppm	8.8	8.8							
	Cond.	567	567							
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	14.0
5	pH	7.7	7.7							
	O2 ppm	8.8	8.8							
	Cond.	551	551							
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	14.0
Control	pH	7.9	7.9							
	O2 ppm	8.7	8.7							
	Cond.	533	533							
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	14.0

MISA Trout

SLOPE of Mortality Curve : 8.1
LC50 Calculated By : Probit

TOXICITY TEST REPORT Sample: 03900176

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)

Region : West Central
Industry : Iron and Steel

Control point : #1 60 inch Sewer, (602)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 03/06/90
Received : 03/06/90
Tested : 03/07/90 at: 1240

Type of Bioassay

: STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal
Weight(gm)
Length(mm)

: Rainbow trout
:
:

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E										TOTAL MORTALITY	
%	00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00	%			
100	0	0	0	0	10	10	10	10	10	10	100	
65	0	0	0	0	1	1	1	1	1	1	10	
40	0	0	0	0	0	0	0	0	0	0	0	
20	0	0	0	0	0	0	0	0	0	0	0	
10	0	0	0	0	0	0	0	0	0	0	0	
5	0	0	0	0	0	0	0	0	0	0	0	
Control	0	0	0	0	0	0	0	0	0	0	0	

96 Hour LC50 : 75.0 %

95% fid. limits : 61.4 - 91.4 %

Comments : Lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900176

TEST CONC. %	E L A P S E D T I M E									
	00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00		
100	pH 2.8 O2 ppm 10.2 Cond. 1425 Temp(C) 15.0	14.5	14.5	14.5	14.5	14.0	14.0	15.0	2.8 10.2 1425 14.5	
65	pH 6.0 O2 ppm 10.1 Cond. 733 Temp(C) 15.0	14.5	14.5	14.5	14.0	14.0	15.0	15.0	7.7 8.8 74.7	
40	pH 6.9 O2 ppm 9.9 Cond. 661 Temp(C) 15.0	14.5	14.5	14.5	14.0	14.0	15.0	15.0	8.1 9.0 679	
20	pH 7.2 O2 ppm 9.7 Cond. 603 Temp(C) 15.0	14.5	14.5	14.5	14.0	14.0	15.0	15.0	8.2 9.0 613	
10	pH 7.4 O2 ppm 9.5 Cond. 571 Temp(C) 15.0	14.5	14.5	14.5	14.0	14.0	15.0	15.0	8.3 9.1 574	
5	pH 7.6 O2 ppm 9.4 Cond. 558 Temp(C) 15.0	14.5	14.5	14.5	14.0	14.0	15.0	15.0	8.3 9.1 554	
Control	pH 8.2 O2 ppm 9.4 Cond. 538 Temp(C) 15.0	14.5	14.5	14.5	14.0	14.0	15.0	15.0	8.5 9.3 533	

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 01900050

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Stelco Steel Hilton Works

Region : Hamilton, ONT

Industry : West Central

Control point : #1 60 inch Sewer, (602)

Laboratory : MOE

Sampling Method : Grab

Sampled By : B. Trach

Date Collected : 03/26/90

Received : 03/28/90

Tested : 03/30/90 at: 1200

Type of Bioassay

: STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal

Weight(gm)

Length(mm)

: Rainbow trout

:

:

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E										TOTAL MORTALITY
%	00:00	00:30	01:00	02:00	04:00	29:00	50:00	70:30	96:00	%	
100	0	0	0	0	0	0	0	0	0	0	
65	0	0	0	0	0	0	0	0	0	0	
40	0	0	0	0	0	0	0	0	0	0	
30	0	0	0	0	0	0	0	0	0	0	
20	0	0	0	0	0	0	0	0	0	0	
10	0	0	0	0	0	0	0	0	0	0	
Control	0	0	0	0	0	0	0	0	0	0	

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

Sample Number: 01900050

TEST CONC. %

E L A P S E D T I M E

00:00 00:30 01:00 02:00 04:00 29:00 50:00 70:30 96:00

100	pH 7.0	7.5	7.7	7.7	7.7	7.7	7.7	7.7
	02 ppm 12.4	9.4	10.5	10.0	10.5	10.0	10.0	10.0
	Cond. 490	540	550	555	550	560	540	540
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
65	pH 7.6	7.6	7.7	7.7	7.7	7.8	7.8	7.8
	02 ppm 10.0	10.0	10.4	10.0	10.4	10.0	10.0	10.0
	Cond. 455	455	460	460	455	460	440	440
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
40	pH 7.6	7.6	7.8	7.8	7.8	7.9	7.9	7.9
	02 ppm 9.9	9.9	10.4	10.0	10.4	10.0	10.0	10.0
	Cond. 385	385	390	380	380	385	385	385
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
30	pH 7.7	7.7	7.7	7.7	7.7	7.8	7.8	7.8
	02 ppm 10.0	10.0	10.3	9.9	10.3	9.9	10.0	10.0
	Cond. 355	355	355	355	355	355	355	355
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
20	pH 7.8	7.8	7.8	7.8	7.8	7.9	7.9	7.9
	02 ppm 10.0	10.0	10.4	9.9	10.4	9.9	10.0	10.0
	Cond. 325	325	325	325	325	325	325	325
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
10	pH 7.7	7.7	7.7	7.7	7.7	7.8	7.8	7.8
	02 ppm 9.6	9.6	10.2	9.8	10.2	9.8	10.0	10.0
	Cond. 300	300	300	300	300	305	305	305
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Control	pH 7.8	7.8	7.8	7.8	7.8	7.9	7.9	7.9
	02 ppm 10.0	10.0	10.5	10.1	10.5	10.1	10.0	10.0
	Cond. 265	265	260	275	260	275	260	260
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900268

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)

Region : West Central
Industry : Iron and Steel

Control point : #1 60 inch Sewer, (602)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 04/03/90
Received : 04/03/90
Tested : 04/04/90 at: 1440

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	1	3	3	4	40
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	1	1	10
Control	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900268

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00

100	pH O2 ppm Cond. Temp(C)	6.6 9.9 820 15.0	14.5	15.0	14.5	14.0
65	pH O2 ppm Cond. Temp(C)	7.1 9.4 718 15.0	14.5	15.0	14	7.9 8.8 715 14.0
40	pH O2 ppm Cond. Temp(C)	7.3 9.3 648 15.0	14.5	15.0	14.5	7.9 8.2 652 14.0
20	pH O2 ppm Cond. Temp(C)	7.6 9.3 597 15.0	14.5	15.0	14.5	8.2 9.4 594 14.0
10	pH O2 ppm Cond. Temp(C)	7.8 9.3 569 15.0	14.5	15.0	14.5	8.4 9.5 562 14.0
5	pH O2 ppm Cond. Temp(C)	7.8 9.3 556 15.0	14.5	15.0	14.5	8.4 9.5 547 14.0
Control	pH O2 ppm Cond. Temp(C)	7.9 9.2 536 15.0	14.5	15.0	14.5	8.4 9.2 536 14.0

TOXICITY TEST REPORT Sample: 03900344

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : #1 60 inch Sewer, (602)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Johnston
Date Collected : 05/01/90
Received : 05/01/90
Tested : 05/02/90 at: 1125

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900344

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH	6.5			7.7
	O2 ppm	9.8			9.5
	Cond.	820			822
	Temp(C)	15.5	15.0	15.0	14.5
65	pH	7.1			8.2
	O2 ppm	9.8			9.5
	Cond.	728			726
	Temp(C)	15.5	15.0	15.0	14.5
40	pH	7.3			8.3
	O2 ppm	9.8			9.2
	Cond.	658			663
	Temp(C)	15.5	15.0	15.0	14.5
20	pH	7.7			8.3
	O2 ppm	9.7			9.2
	Cond.	605			606
	Temp(C)	15.5	15.0	15.0	14.5
10	pH	7.8			8.3
	O2 ppm	9.7			9.4
	Cond.	576			576
	Temp(C)	15.5	15.0	15.0	14.5
5	pH	7.9			8.4
	O2 ppm	9.7			9.4
	Cond.	563			564
	Temp(C)	15.5	15.0	15.0	14.5
Control	pH	8.0			8.4
	O2 ppm	9.6			9.5
	Cond.	553			530
	Temp(C)	15.5	15.0	15.0	14.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900442

TEST CONDITIONSCompany : Stelco Steel Hilton Works
Hamilton, ONT
(950006)Region : West Central
Industry : Iron and Steel

Control point : #1 60 inch Sewer, (602)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 06/05/90
Received : 06/05/90
Tested : 06/06/90 at: 1210Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
65	0	0	0	0	0
40	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900442

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00

100	pH 8.0	8.1			
	O2 ppm 9.3	9.0			
	Cond. 725	727			
	Temp(C) 15.0	15.5	15.5	16.0	16.0
65	pH 7.9	8.2			
	O2 ppm 9.1	8.9			
	Cond. 665	659			
	Temp(C) 15.0	15.5	15.5	16.0	16.0
40	pH 7.9	8.3			
	O2 ppm 8.8	9.0			
	Cond. 622	608			
	Temp(C) 15.0	15.5	15.5	16.0	16.0
20	pH 7.8	8.4			
	O2 ppm 8.6	8.9			
	Cond. 582	573			
	Temp(C) 15.0	15.5	15.5	16.0	16.0
10	pH 7.8	8.3			
	O2 ppm 8.6	8.5			
	Cond. 560	555			
	Temp(C) 15.0	15.5	15.5	16.0	16.0
5	pH 7.8	8.4			
	O2 ppm 8.6	8.6			
	Cond. 551	542			
	Temp(C) 15.0	15.5	15.5	16.0	16.0
Control	pH 7.8	8.3			
	O2 ppm 8.6	8.7			
	Cond. 545	530			
	Temp(C) 15.0	15.5	15.5	16.0	16.0

TOXICITY TEST REPORT Sample: 03900551

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel

Control point : #1 60 inch Sewer, (602)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 07/03/90
Received : 07/03/90
Tested : 07/04/90 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900551

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH 8.1 O2 ppm 9.9 Cond. 695 Temp(C) 15.5	15.0	14.5	15.0 8.0 9.3 680 15.0
65	pH 8.0 O2 ppm 9.9 Cond. 635 Temp(C) 15.5	15.0	14.5	15.0 8.0 8.7 632 15.0
40	pH 7.9 O2 ppm 9.9 Cond. 598 Temp(C) 15.5	15.0	14.5	15.0 8.1 8.9 590 15.0
20	pH 7.9 O2 ppm 9.9 Cond. 563 Temp(C) 15.5	15.0	14.5	15.0 8.3 9.0 560 15.0
10	pH 7.9 O2 ppm 9.8 Cond. 549 Temp(C) 15.5	15.0	14.5	15.0 8.1 8.3 546 15.0
5	pH 7.9 O2 ppm 9.8 Cond. 545 Temp(C) 15.5	15.0	14.5	15.0 8.2 9.0 538 15.0
Control	pH 7.8 O2 ppm 9.7 Cond. 536 Temp(C) 15.5	15.0	14.5	15.0 8.2 8.5 533 15.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900683

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Steelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : #1 60 inch Sewer, (602)
Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Hibberd
Date Collected : 08/14/90
Received : 08/14/90
Tested : 08/15/90 at: 1335

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; non-lethal

Sample Number: 03900683

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH 8.1 O2 ppm 8.4 Cond. 614 Temp(C) 16.0	15.5	15.0	15.5
100	pH 8.1 O2 ppm 8.4 Cond. 614 Temp(C) 16.0	15.5	15.0	15.5
Control	pH 7.9 O2 ppm 8.4 Cond. 535 Temp(C) 16.0	15.5	15.0	15.5
Control	pH 7.9 O2 ppm 8.4 Cond. 535 Temp(C) 16.0	15.5	15.0	15.5

TOXICITY TEST REPORT Sample: 03890266

TEST CONDITIONS

Company : Stelco Steel Hilton Works

Region : Hamilton, ONT
(950006)

Industry : West Central

Control point : Iron and Steel

Laboratory : #2 Rod Mill, (1100)

Sampling Method : BAR

Sampled By : P. Peidl

Date Collected : 11/14/89

Received : 11/14/89

Tested : 11/15/89 at: 1500

Type of Bioassay: STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).Test Animal

Weight(gm)

Length(mm)

: Rainbow trout

:

:

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
40	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890266

TEST CONC.	E L A P S E D T I M E					
%	00:00	04:00	24:00	48:00	72:00	96:00

Control	pH	7.6				8.6
	02 ppm	7.0				9.5
	Cond.	563				555
	Temp(C)	15.0	15.0	15.0	14.0	14.0
10	pH	7.6				8.4
	02 ppm	7.1				9.2
	Cond.	544				547
	Temp(C)	15.0	15.0	15.0	14.0	14.0
20	pH	7.6				8.5
	02 ppm	7.1				9.2
	Cond.	523				523
	Temp(C)	15.0	15.0	15.0	14.0	14.0
40	pH	7.7				8.4
	02 ppm	7.4				9.4
	Cond.	485				486
	Temp(C)	15.0	15.0	15.0	14.0	14.0
65	pH	7.7				8.2
	02 ppm	7.9				9.3
	Cond.	434				435
	Temp(C)	15.0	15.0	15.0	14.0	14.0
100	pH	8.0				8.1
	02 ppm	9.4				9.3
	Cond.	363				365
	Temp(C)	15.0	15.0	15.0	14.0	14.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03890321

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)

Region : West Central
Industry : Iron and Steel

Control point : #2 Rod Mill, (1100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 12/05/89
Received : 12/05/89
Tested : 12/06/89 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

Sample Number: 03890321

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00

100	pH 7.8 O2 ppm 9.8 Cond. 349 Temp(C) 15.0	14.5	14.0	14.5	8.1 9.1 355 14.5
65	pH 7.7 O2 ppm 9.3 Cond. 428 Temp(C) 15.0	14.5	14.0	14.5	8.1 9.2 432 14.5
40	pH 7.7 O2 ppm 9.1 Cond. 482 Temp(C) 15.0	14.5	14.0	14.5	8.2 9.2 482 14.5
20	pH 7.7 O2 ppm 8.7 Cond. 544 Temp(C) 15.0	14.5	14.0	14.5	8.2 8.9 521 14.5
10	pH 7.7 O2 ppm 8.9 Cond. 527 Temp(C) 15.0	14.5	14.0	14.5	8.3 9.2 538 14.5
Control	pH 7.8 O2 ppm 8.9 Cond. 568 Temp(C) 15.0	14.5	14.0	14.5	8.3 8.9 553 14.5

TOXICITY TEST REPORT Sample: 03900030

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : #2 Rod Mill, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 01/16/90
Received : 01/16/90
Tested : 01/16/90 at: 1700

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900030

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 7.9 O2 ppm 11.2 Cond. 355 Temp(C) 14.0	15.0	15.0	14.0	8.3 9.4 362 14.0
65	pH 8.0 O2 ppm 10.4 Cond. 424 Temp(C) 14.5	15.0	15.0	14.0	8.4 9.3 431 14.0
40	pH 8.0 O2 ppm 10.2 Cond. 479 Temp(C) 15.0	15.0	15.0	14.0	8.4 9.2 483 14.0
20	pH 8.0 O2 ppm 9.7 Cond. 516 Temp(C) 15.5	15.0	15.0	14.0	8.4 9.3 517 14.0
10	pH 8.0 O2 ppm 9.3 Cond. 539 Temp(C) 16.0	15.0	15.0	14.0	8.4 9.4 531 14.0
5	pH 8.0 O2 ppm 9.4 Cond. 544 Temp(C) 16.0	15.0	15.0	14.0	8.5 9.3 542 14.0
Control	pH 8.0 O2 ppm 9.2 Cond. 547 Temp(C) 16.0	15.0	15.0	14.0	8.5 9.1 544 14.0

MISA Trout

TOXICITY TEST REPORT Sample: 039000089

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : #2 Rod Mill, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 02/06/90
Received : 02/06/90
Tested : 02/07/90 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
100	0	0	0	0	0
Control	0	0	0	0	0
Control	0	0	0	0	10

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 039000089

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00 72:00 96:00

100	pH	8.0				8.2
	O2 ppm	10.0				9.6
	Cond.	348				357
	Temp(C)	15.0	15.0	15.0	15.0	14.0
100	pH	8.0				8.0
	O2 ppm	10.0				9.2
	Cond.	348				356
	Temp(C)	15.0	15.0	15.0	15.0	14.0
Control	pH	7.8				8.6
	O2 ppm	8.3				9.8
	Cond.	536				530
	Temp(C)	15.0	15.0	15.0	15.0	14.0
Control	pH	7.8				8.5
	O2 ppm	8.3				9.6
	Cond.	536				535
	Temp(C)	15.0	15.0	15.0	15.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900179

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : #2 Rod Mill, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 03/06/90
Received : 03/06/90
Tested : 03/07/90 at: 1120

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single test concentration; Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900179

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00
100	pH 8.1 O2 ppm 11.4 Cond. 346 Temp(C) 15.0	14.0	14.0	15.0	8.0 8.8 373 15.0
100	pH 8.1 O2 ppm 11.4 Cond. 346 Temp(C) 15.0	14.0	14.0	15.0	8.1 9.2 370 15.0
Control	pH 7.8 O2 ppm 9.5 Cond. 547 Temp(C) 15.0	14.0	14.0	15.0	8.5 9.1 530 15.0
Control	pH 7.8 O2 ppm 9.5 Cond. 547 Temp(C) 15.0	14.0	14.0	15.0	8.2 8.2 534 15.0

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Company	: Stelco Steel Hilton Works
1981	1982

Sample Number: 01900055

1200

Type of Bioassay : STATIC (Protocol of liquid)

.. Rainbow trout

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY
%	00:00 00:30 01:00 02:00 04:00 23:30 45:30 70:00 96:00	%

[illegible]

Non-lethal

0.0	0.0	0.0	0.0
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MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 01900055

TEST CONC.	ELAPSED TIME
%	00:00 00:30 01:00

100	pH	7.5	7.9	7.9	7.9	7.9	7.9	8.
	O2 ppm	11.0	10.0	10.0	10.0	10.0	10.0	10.
	Cond.	245	265	265	265	265	265	27.
	Temp.(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.
65	pH		7.9	7.9	7.9	7.9	7.9	7.
	O2 ppm		10.3	10.0	10.0	10.0	10.0	10.
	Cond.		270	265	265	265	265	28.
	Temp.(C)		15.0	15.0	15.0	15.0	15.0	15.
40	pH		7.8	7.8	7.8	7.8	7.8	7.
	O2 ppm		10.1	9.7	9.9	9.9	9.9	10.
	Cond.		270	265	270	270	270	27.
	Temp.(C)		15.0	15.0	15.0	15.0	15.0	15.
30	pH		7.8	7.9	7.9	7.9	7.9	7.
	O2 ppm		10.3	10.1	10.1	10.1	10.1	10.
	Cond.		270	265	270	270	270	27.
	Temp.(C)		15.0	15.0	15.0	15.0	15.0	15.
20	pH		7.8	7.9	7.9	7.9	7.9	7.
	O2 ppm		10.3	10.0	10.0	10.0	10.0	10.
	Cond.		270	270	270	270	270	27.
	Temp.(C)		15.0	15.0	15.0	15.0	15.0	15.
10	pH		7.7	7.9	7.9	7.9	7.9	7.
	O2 ppm		10.1	9.9	10.0	10.0	10.0	9.
	Cond.		250	270	270	270	270	27.
	Temp.(C)		15.0	15.0	15.0	15.0	15.0	15.
Control	pH		7.7	7.9	7.8	7.9	7.9	7.
	O2 ppm		10.4	9.9	9.9	9.9	10.0	9.
	Cond.		275	270	270	275	275	26.
	Temp.(C)		15.0	15.0	15.0	15.0	15.0	15.

HISA Trout

TOXICITY TEST REPORT Sample: 03900269

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : #2 Rod Mill, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 04/03/90
Received : 04/03/90
Tested : 04/04/90 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single concentration test; non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900269

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.1 O2 ppm 10.6 Cond. 354 Temp(C) 15.0	14.5	14.0	14.5	8.1 9.8 349 14.0
100	pH 8.1 O2 ppm 10.6 Cond. 354 Temp(C) 15.0	14.5	14.0	14.5	7.9 9.5 351 14.0
Control	pH 7.9 O2 ppm 9.0 Cond. 544 Temp(C) 15.0	14.5	14.0	14.5	8.3 9.6 542 14.0
Control	pH 7.9 O2 ppm 9.0 Cond. 544 Temp(C) 15.0	14.5	14.0	14.5	8.4 9.8 538 14.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900343

TEST CONDITIONS

Company : Stelco Steel, Hilton Works
Hamilton, ONT
(950006)

Region : West Central
Industry : Iron and Steel

Control point : #2 Rod Mill, (1100)

Laboratory : BAR

Sampling Method : Grab

Sampled By : D. Johnston

Date Collected : 05/01/90

Received : 05/01/90

Tested : 05/02/90 at: 1135

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal; single concentration test

TOXICITY TEST PARAMETERS

Sample Number: 03900343

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.2 O2 ppm 10.2 Cond. 374 Temp(C) 15.5	8.2 10.2 374 15.5	15.0 15.0 15.0 15.0	14.5 14.5 14.5 15.0	7.9 8.5 380 15.0
100	pH 8.2 O2 ppm 10.2 Cond. 374 Temp(C) 15.5	8.2 10.2 374 15.5	15.0 15.0 15.0 15.0	14.5 14.5 14.5 15.0	8.1 8.0 382 15.0
Control	pH 7.9 O2 ppm 9.7 Cond. 551 Temp(C) 15.5	7.9 9.7 551 15.5	15.0 15.0 15.0 15.0	14.5 14.5 14.5 15.0	8.3 9.0 529 15.0
Control	pH 7.9 O2 ppm 9.7 Cond. 551 Temp(C) 15.5	7.9 9.7 551 15.5	15.0 15.0 15.0 15.0	14.5 14.5 14.5 15.0	8.3 8.7 538 15.0

HISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900443

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : #2 Rod Mill, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 06/05/90
Received : 06/05/90
Tested : 06/06/90 at: 1515
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single concentration test; Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900443

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.1 O2 ppm 9.7 Cond. 356 Temp(C) 15.0	16.0	15.5	16.0	7.9 8.2 359 16.0
100	pH 8.1 O2 ppm 9.7 Cond. 356 Temp(C) 15.0	16.0	15.5	16.0	7.9 8.1 358 16.0
Control	pH 7.8 O2 ppm 8.3 Cond. 545 Temp(C) 15.0	16.0	15.5	16.0	8.2 8.3 531 16.0
Control	pH 7.8 O2 ppm 8.3 Cond. 545 Temp(C) 15.0	16.0	15.5	16.0	8.3 8.4 537 16.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900550

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)

Region : West Central
Industry : Iron and Steel

Control point : #2 Rod Mill, (1100)

Laboratory : BAR

Sampling Method : Grab

Sampled By : P. Peidl

Date Collected : 07/03/90

Received : 07/03/90

Tested : 07/04/90 at: 1200

Type of Bioassay : STATIC

(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout

Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900550

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00

100	pH	8.2			7.8
	O2 ppm	10.0			7.6
	Cond.	365			368
	Temp(C)	15.5	15.0	15.5	16.0
100	pH	8.2			7.8
	O2 ppm	10.0			8.6
	Cond.	365			365
	Temp(C)	15.5	15.0	15.5	16.0
Control	pH	7.8			8.1
	O2 ppm	9.6			8.2
	Cond.	536			536
	Temp(C)	15.5	15.0	15.5	16.0
Control	pH	7.8			8.1
	O2 ppm	9.6			7.4
	Cond.	536			539
	Temp(C)	15.5	15.0	15.5	16.0

TOXICITY TEST REPORT Sample: 03890267

TEST CONDITIONS

Company : Stelco Steel Hilton Works

Hamilton, ONT
(950006)

Region : West Central

Industry : Iron and Steel

Control point : 20 inch Mill, (1200)

Laboratory : BAR

Sampling Method : Grab

Sampled By : P. Peidl

Date Collected : 11/14/89

Received : 11/14/89

Tested : 11/15/89 at: 1330

Type of Bioassay: STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890267

TEST CONC. %	E L A P S E D T I M E					
	00:00	04:00	24:00	48:00	72:00	96:00

Control	pH	7.6				8.4
	O2 ppm	7.5				9.8
	Cond.	558				565
	Temp(C)	15.0	15.0	15.0	14.0	14.0
10	pH	7.6				8.4
	O2 ppm	7.5				9.2
	Cond.	563				566
	Temp(C)	15.0	15.0	15.0	14.0	14.0
20	pH	7.7				8.4
	O2 ppm	7.7				9.7
	Cond.	569				569
	Temp(C)	15.0	15.0	15.0	14.0	14.0
40	pH	7.6				8.4
	O2 ppm	7.9				9.6
	Cond.	578				587
	Temp(C)	15.0	15.0	15.0	14.0	14.0
65	pH	7.7				8.4
	O2 ppm	8.8				9.5
	Cond.	596				598
	Temp(C)	15.0	15.0	15.0	14.0	14.0
100	pH	7.7				8.1
	O2 ppm	9.3				9.5
	Cond.	615				601
	Temp(C)	15.0	15.0	15.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890322

TEST CONDITIONS

Company : Stelco Steel, Wilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel

Control point : 20 inch Mill, (1200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 12/05/89
Received : 12/05/89
Tested : 12/06/89 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
65	0	0	0	0	0
40	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890322

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00 72:00 96:00

100	pH 7.7 O2 ppm 9.3 Cond. 560 Temp(C) 15.0	14.5	14.5	14.5	8.0 9.3 574 14.5
65	pH 7.7 O2 ppm 9.2 Cond. 561 Temp(C) 15.0	14.5	14.5	14.5	8.1 9.3 570 14.5
40	pH 7.7 O2 ppm 9.2 Cond. 562 Temp(C) 15.0	14.5	14.5	14.5	8.2 9.2 569 14.5
20	pH 7.7 O2 ppm 9.3 Cond. 559 Temp(C) 15.0	14.5	14.5	14.5	8.2 9.2 566 14.5
10	pH 7.7 O2 ppm 9.2 Cond. 565 Temp(C) 15.0	14.5	14.5	14.5	8.3 9.4 560 14.5
Control	pH 7.7 O2 ppm 9.1 Cond. 564 Temp(C) 15.0	14.5	14.5	14.5	8.4 9.4 554 14.5

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900029

TEST CONDITIONS

Company : Steelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel

Control point : 20 inch Mill, (1200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 01/16/90
Received : 01/16/90
Tested : 01/16/90 at: 1700

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900029

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 7.9 O2 ppm 11.0 Cond. 585 Temp(C) 14.0	15.0	15.0	14.0	8.2 9.2 589 14.0
65	pH 7.9 O2 ppm 10.6 Cond. 577 Temp(C) 14.5	15.0	15.0	14.0	8.3 9.1 575 14.0
40	pH 7.9 O2 ppm 10.2 Cond. 567 Temp(C) 15.0	15.0	15.0	14.0	8.3 9.2 568 14.0
20	pH 8.0 O2 ppm 9.9 Cond. 561 Temp(C) 15.5	15.0	15.0	14.0	8.4 9.3 564 14.0
10	pH 8.0 O2 ppm 9.8 Cond. 558 Temp(C) 16.0	15.0	15.0	14.0	8.4 9.4 563 14.0
5	pH 8.0 O2 ppm 9.6 Cond. 554 Temp(C) 16.0	15.0	15.0	14.0	8.5 9.4 553 14.0
Control	pH 8.0 O2 ppm 9.5 Cond. 551 Temp(C) 16.0	15.0	15.0	14.0	8.5 9.3 550 14.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 039000090

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)

Region : West Central
Industry : Iron and Steel

Control point : 20 inch Mill, (1200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 02/06/90
Received : 02/06/90
Tested : 02/07/90 at: 1200

Type of Bioassay

: STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
100	0	0	0	0	0
Control	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test

Sample Number: 039000090

TEST CONC.	E L A P S E D T I M E			
%	00:00	24:00	48:00	72:00 96:00
100	pH 7.8 O2 ppm 9.5 Cond. 667 Temp(C) 15.0	15.0	15.0	15.0 14.0
100	pH 7.8 O2 ppm 9.5 Cond. 667 Temp(C) 15.0	15.0	15.0	15.0 14.0
Control	pH 7.8 O2 ppm 8.3 Cond. 536 Temp(C) 15.0	15.0	15.0	15.0 14.0
Control	pH 7.8 O2 ppm 8.3 Cond. 536 Temp(C) 15.0	15.0	15.0	15.0 14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900180

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : 20 inch Mill, (1200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Reidl
Date Collected : 03/06/90
Received : 03/06/90
Tested : 03/07/90 at: 1125

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single test concentration; Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900180

TEST
CONC.
%

E L A P S E D T I M E

00:00 24:00 48:00 72:00 96:00

100	pH	8.0				8.0
	O2 ppm	11.3				9.0
	Cond.	702				726
	Temp(C)	15.0	14.0	14.0	15.0	15.0
100	pH	8.0				8.1
	O2 ppm	11.3				9.1
	Cond.	702				722
	Temp(C)	15.0	14.0	14.0	15.0	15.0
Control	pH	7.9				8.4
	O2 ppm	9.6				9.1
	Cond.	539				533
	Temp(C)	15.0	14.0	14.0	15.0	15.0
Control	pH	7.9				8.2
	O2 ppm	9.6				8.5
	Cond.	539				535
	Temp(C)	15.0	14.0	14.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900270

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : 20 inch Mill, (1200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Piedl
Date Collected : 04/03/90
Received : 04/03/90
Tested : 04/04/90 at: 1205

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	1	1	1	1	10
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : Single concentration test; 5% mort. @ 100%

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900270

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.0 O2 ppm 9.8 Cond. 729 Temp(C) 15.0	14.5	14.0	14.0	8.1 9.7 715 14.0
100	pH 8.0 O2 ppm 9.8 Cond. 729 Temp(C) 15.0	14.5	14.0	14.0	8.1 9.7 716 14.0
Control	pH 7.9 O2 ppm 9.1 Cond. 527 Temp(C) 15.0	14.5	14.0	14.0	8.4 9.8 528 14.0
Control	pH 7.9 O2 ppm 9.1 Cond. 527 Temp(C) 15.0	14.5	14.0	14.0	8.3 9.4 523 14.0

TOXICITY TEST REPORT

TEST CONDITIONS

Company	: Stelco Steel Hilton Works Hamilton, ONT (950006)
Region	: West Central
Industry	: Iron and Steel
Control point	: #2 60 inch Sewer (1300)

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Laboratory
Sampling Method
Sampled By      : B. Trach
Date Collected : 03/26/90
Received        : 03/28/90
Tested         : 03/30/90 at: 1200
: MOE
: Grab
:

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Type of Bioassay : STATIC (Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal	: Rainbow trout
Weight(gm)	:
Length(mm)	:

MORTALITY DATA

[illegible]

96 Hour LC50	:	Non-lethal
95% fid. limits	:	0.0 - 0.0 %

Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 01900049

TEST CONC.	ELAPSED TIME
%	00:00 00:30 01:00

[illegible]

MISA Trout

TOXICITY TEST REPORT Sample: 03900267

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : #2 60 inch Sewer, (1300)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 04/03/90
Received : 04/03/90
Tested : 04/04/90 at: 1450

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900267

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00 72:00 96:00

100	pH 8.5 O2 ppm 9.6 Cond. 685 Temp(C) 15.0	14.5	15.0	14.5	15.0	7.7 8.0 696 15.0
65	pH 8.2 O2 ppm 9.3 Cond. 636 Temp(C) 15.0	14.5	15.0	14.5	15.0	8.2 9.4 640 15.0
40	pH 8.0 O2 ppm 9.3 Cond. 605 Temp(C) 15.0	14.5	15.0	14.5	15.0	8.3 9.5 599 15.0
20	pH 8.0 O2 ppm 9.3 Cond. 568 Temp(C) 15.0	14.5	15.0	14.5	15.0	8.4 9.7 565 15.0
10	pH 8.0 O2 ppm 9.2 Cond. 557 Temp(C) 15.0	14.5	15.0	14.5	15.0	8.4 9.6 550 15.0
5	pH 8.0 O2 ppm 9.3 Cond. 549 Temp(C) 15.0	14.5	15.0	14.5	15.0	8.4 9.5 542 15.0
Control	pH 7.9 O2 ppm 8.9 Cond. 533 Temp(C) 15.0	14.5	15.0	14.5	15.0	8.4 9.6 533 15.0

TOXICITY TEST REPORT Sample: 03900557

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : #2 60 inch Sewer, (1300)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 07/03/90
Received : 07/03/90
Tested : 07/04/90 at: 1605

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900557

TEST
CONC.
%

E L A P S E D T I M E

00:00 24:00 48:00 72:00 96:00

100	pH	8.3				7.7
	O2 ppm	9.3				8.3
	Cond.	654				642
	Temp(C)	15.5	15.5	15.5	16.0	15.5
65	pH	8.0				7.8
	O2 ppm	9.7				8.3
	Cond.	608				600
	Temp(C)	15.5	15.5	15.5	16.0	15.5
40	pH	7.9				8.3
	O2 ppm	9.7				9.0
	Cond.	581				567
	Temp(C)	15.5	15.5	15.5	16.0	15.5
20	pH	7.9				8.1
	O2 ppm	9.7				8.4
	Cond.	551				548
	Temp(C)	15.5	15.5	15.5	16.0	15.5
10	pH	7.8				8.4
	O2 ppm	9.7				9.1
	Cond.	540				532
	Temp(C)	15.5	15.5	15.5	16.0	15.5
5	pH	7.8				8.2
	O2 ppm	9.7				8.6
	Cond.	538				535
	Temp(C)	15.5	15.5	15.5	16.0	15.5
Control	pH	7.8				8.1
	O2 ppm	9.7				8.2
	Cond.	534				529
	Temp(C)	15.5	15.5	15.5	16.0	15.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900684

TEST CONDITIONS

Company : Stelco Steel, Hilton Works
Hamilton, ONT
(950006)

Region : West Central
Industry : Iron and Steel

Control point : #2 60 inch Sewer, (1300)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Hibberd
Date Collected : 08/14/90
Received : 08/14/90
Tested : 08/15/90 at: 1425

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900684

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.9 O2 ppm 8.8 Cond. 571 Temp(C) 16.0	15.5	15.0	15.5	8.0 7.8 575 15.5
65	pH 8.4 O2 ppm 8.7 Cond. 559 Temp(C) 16.0	15.5	15.0	15.5	8.1 8.9 560 15.5
40	pH 8.1 O2 ppm 8.6 Cond. 548 Temp(C) 16.0	15.5	15.0	15.5	8.3 8.9 546 15.5
20	pH 8.0 O2 ppm 8.6 Cond. 542 Temp(C) 16.0	15.5	15.0	15.5	8.3 9.0 541 15.5
10	pH 7.9 O2 ppm 8.4 Cond. 540 Temp(C) 16.0	15.5	15.0	15.5	8.3 9.0 540 15.5
5	pH 7.9 O2 ppm 8.4 Cond. 538 Temp(C) 16.0	15.5	15.0	15.5	8.3 9.0 537 15.5
Control	pH 7.9 O2 ppm 8.4 Cond. 537 Temp(C) 16.0	15.5	15.0	15.5	8.4 9.1 534 15.5

TOXICITY TEST REPORT Sample: 03900189

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : Intake Water, (1600)
Laboratory : BAR
Sampling Method : Grab
Sampled By : J. Tegler
Date Collected : 03/09/90
Received : 03/09/90
Tested : 03/09/90 at: 1610

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900189

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00

100	pH	8.3			8.2
	O2 ppm	11.0			9.9
	Cond.	721			726
	Temp(C)	15.0	14.0	15.0	15.5
65	pH	8.0			8.3
	O2 ppm	9.8			9.8
	Cond.	660			659
	Temp(C)	15.0	14.0	15.0	15.5
40	pH	8.0			8.3
	O2 ppm	9.4			9.7
	Cond.	608			614
	Temp(C)	15.0	14.0	15.0	15.5
20	pH	7.9			8.4
	O2 ppm	9.2			9.7
	Cond.	571			575
	Temp(C)	15.0	14.0	15.0	15.5
10	pH	7.9			8.4
	O2 ppm	9.1			9.8
	Cond.	554			549
	Temp(C)	15.0	14.0	15.0	15.5
5	pH	7.9			8.4
	O2 ppm	8.7			9.7
	Cond.	543			543
	Temp(C)	15.0	14.0	15.0	15.5
Control	pH	7.9			8.4
	O2 ppm	8.6			10.0
	Cond.	534			526
	Temp(C)	15.0	14.0	15.0	15.5

MISA Trout

TOXICITY TEST REPORT Sample: 03890264

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : East Side Filter Stage 1, (1900)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 11/14/89
Received : 11/14/89
Tested : 11/15/89 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890264

TEST CONC.	E L A P S E D T I M E					
%	00:00	04:00	24:00	48:00	72:00	96:00

Control	pH	7.6				8.5
	O2 ppm	7.1				9.3
	Cond.	560				561
	Temp(C)	15.0	15.0	15.0	14.0	14.0
10	pH	7.6				8.4
	O2 ppm	7.1				9.3
	Cond.	564				569
	Temp(C)	15.0	15.0	15.0	14.0	14.0
20	pH	7.6				8.4
	O2 ppm	7.2				9.1
	Cond.	566				571
	Temp(C)	15.0	15.0	15.0	14.0	14.0
40	pH	7.6				8.4
	O2 ppm	7.5				9.2
	Cond.	574				583
	Temp(C)	15.0	15.0	15.0	14.0	14.0
65	pH	7.6				8.3
	O2 ppm	7.8				9.3
	Cond.	602				606
	Temp(C)	15.0	15.0	15.0	14.0	14.0
100	pH	7.6				8.1
	O2 ppm	8.1				9.3
	Cond.	610				610
	Temp(C)	15.0	15.0	15.0	14.0	14.0

TOXICITY TEST REPORT Sample: 03890323

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : East Side Filter Stage 1, (1900)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 12/05/89
Received : 12/05/89
Tested : 12/06/89 at: 1130

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments : Nonlethal

TOXICITY TEST PARAMETERS

Sample Number: 03890323

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 7.6 O2 ppm 8.8 Cond. 611 Temp(C) 15.0	14.5	14.5	14.5	8.1 9.3 630 14.5
65	pH 7.6 O2 ppm 8.8 Cond. 596 Temp(C) 15.0	14.5	14.5	14.5	8.1 9.2 608 14.5
40	pH 7.7 O2 ppm 8.8 Cond. 584 Temp(C) 15.0	14.5	14.5	14.5	8.3 9.2 595 14.5
20	pH 7.7 O2 ppm 8.8 Cond. 577 Temp(C) 15.0	14.5	14.5	14.5	8.1 9.0 585 14.5
10	pH 7.6 O2 ppm 8.8 Cond. 573 Temp(C) 15.0	14.5	14.5	14.5	8.4 9.4 574 14.5
Control	pH 7.6 O2 ppm 8.9 Cond. 571 Temp(C) 15.0	14.5	14.5	14.5	8.4 9.4 569 14.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900027

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : East Side Filter Stage 1, (1900)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 01/16/90
Received : 01/16/90
Tested : 01/16/90 at: 1700

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments : Nonlethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900027

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00
100	pH 7.6 O2 ppm 9.1 Cond. 661 Temp(C) 15.0	15.0	15.0	15.0	14.0
65	pH 7.8 O2 ppm 9.2 Cond. 616 Temp(C) 15.0	15.0	15.0	15.0	14.0
40	pH 7.9 O2 ppm 8.5 Cond. 592 Temp(C) 15.0	15.0	15.0	15.0	14.0
20	pH 7.9 O2 ppm 8.8 Cond. 573 Temp(C) 15.0	15.0	15.0	15.0	14.0
10	pH 8.0 O2 ppm 8.4 Cond. 565 Temp(C) 15.0	15.0	15.0	15.0	14.0
5	pH 8.0 O2 ppm 8.7 Cond. 556 Temp(C) 15.0	15.0	15.0	15.0	14.0
Control	pH 7.9 O2 ppm 9.2 Cond. 550 Temp(C) 15.0	15.0	15.0	15.0	14.0

TOXICITY TEST REPORT Sample: 03900177

TEST CONDITIONS

Company : Stelco Steel Hilton Works

Hamilton, ONT

(950006)

Region : West Central

Industry : Iron and Steel

Control point : East Side Filter Stage 1, (1900)

Laboratory : BAR

Sampling Method : Grab

Sampled By : P. Peidl

Date Collected : 03/06/90

Received : 03/06/90

Tested : 03/07/90 at: 1200

Type of Bioassay

: STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal

Weight(gm)

Length(mm)

: Rainbow trout

:

:

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single test concentration; Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900177

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH 7.7 O2 ppm 9.4 Cond. 723 Temp(C) 15.0	14.0	14.0	15.0 7.9 8.8 760 14.5
100	pH 7.7 O2 ppm 9.4 Cond. 723 Temp(C) 15.0	14.0	14.0	15.0 8.0 8.9 758 14.5
Control	pH 7.9 O2 ppm 9.5 Cond. 548 Temp(C) 15.0	14.0	14.0	15.0 8.4 9.1 546 14.5
Control	pH 7.9 O2 ppm 9.5 Cond. 548 Temp(C) 15.0	14.0	14.0	15.0 8.2 8.7 548 14.5

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 01900053

Region	West Central	Iron and Steel	CONCL.
	%	%	
Industry			00:00 00:30 01:00

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Laboratory      : MOE
Sampling Method : Grab
Sampled By     : Mark Smithson
Date Collected : 03/26/90
Received       : 03/28/90
Tested         : 03/30/90 at: 1200

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Test Animal	: Rainbow trout
Weight(gm)	:
Length(mm)	:

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY
%	00:00 00:30 01:00 02:00 04:00 29:30 50:00 71:00 96:00	%

[illegible]

95% fid. limits	:	0.0	-	0.0	%
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MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900265

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : East Side Filter Stage 1, (1900)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 04/03/90
Received : 04/03/90
Tested : 04/04/90 at: 1050

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900265

TEST CONC.	ELAPSED TIME				
%	00:00	24:00	48:00	72:00	96:00
100	pH 7.8 O2 ppm 8.6 Cond. 773 Temp(C) 15.0	14.5	14.0	14.5	8.0 9.6 770 14.0
100	pH 7.8 O2 ppm 8.6 Cond. 773 Temp(C) 15.0	14.5	14.0	14.5	7.9 9.4 773 14.0
Control	pH 7.9 O2 ppm 8.9 Cond. 545 Temp(C) 15.0	14.5	14.0	14.5	8.4 9.7 517 14.0
Control	pH 7.9 O2 ppm 8.9 Cond. 545 Temp(C) 15.0	14.5	14.0	14.5	8.4 9.7 518 14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900345

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : East Side Filter Stage 1, (1900)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Johnston
Date Collected : 05/01/90
Received : 05/01/90
Tested : 05/02/90 at: 1430

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	1	10
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal; single concentration test

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900345

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00 72:00 96:00

100	pH 7.8 O2 ppm 8.6 Cond. 806 Temp(C) 15.5	15.0	14.5	14.5	14.5	8.1 9.5 798 14.5
100	pH 7.8 O2 ppm 8.6 Cond. 806 Temp(C) 15.5	15.0	14.5	14.5	14.5	8.1 9.5 808 14.5
Control	pH 7.9 O2 ppm 9.4 Cond. 551 Temp(C) 15.5	15.0	14.5	14.5	14.5	8.4 9.6 503 14.5
Control	pH 7.9 O2 ppm 9.4 Cond. 551 Temp(C) 15.5	15.0	14.5	14.5	14.5	8.4 9.5 518 14.5

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900444

TEST CONDITIONS

Company : Stelco Steel Hilton Works
 Hamilton, ONT
 (950006)
Region : West Central
Industry : Iron and Steel

Control point : East Side Filter Stage 1, (1900)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 06/05/90
Received : 06/05/90
Tested : 06/06/90 at: 1525

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single concentration test; Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900444

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00
100	pH 7.5 O2 ppm 7.7 Cond. 740 Temp(C) 15.0	16.0	15.5	16.0	7.8 8.1 754 16.0
100	pH 7.5 O2 ppm 7.7 Cond. 740 Temp(C) 15.0	16.0	15.5	16.0	7.8 8.0 756 16.0
Control	pH 7.8 O2 ppm 8.2 Cond. 543 Temp(C) 15.0	16.0	15.5	16.0	8.4 8.2 530 16.0
Control	pH 7.8 O2 ppm 8.2 Cond. 543 Temp(C) 15.0	16.0	15.5	16.0	8.4 8.2 532 16.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900554

TEST CONDITIONS

Company : Stelco Steel Hilton Works

Region : Hamilton, ONT

Industry : West Central

Control point : Iron and Steel

Laboratory : East Side Filter Stage 1, (1900)

Sampling Method : BAR

Sampled By : Grab

Date Collected : P. Peidl

Received : 07/03/90

Tested : 07/04/90 at: 1415

Type of Bioassay : STATIC

(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900554

TEST CONC.	ELAPSED TIME				
%	00:00	24:00	48:00	72:00	96:00

100	pH	7.4			7.8
	O2 ppm	8.2			8.5
	Cond.	732			718
	Temp(C)	15.5	15.0	14.5	15.0
100	pH	7.4			7.6
	O2 ppm	8.2			8.2
	Cond.	732			723
	Temp(C)	15.5	15.0	14.5	15.0
Control	pH	7.9			8.1
	O2 ppm	9.9			8.1
	Cond.	534			529
	Temp(C)	15.5	15.0	14.5	15.0
Control	pH	7.9			8.2
	O2 ppm	9.9			8.7
	Cond.	534			532
	Temp(C)	15.5	15.0	14.5	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900685

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : East Side Filter Stage 1, (1900)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Hibberd
Date Collected : 08/14/90
Received : 08/14/90
Tested : 08/15/90 at: 1430

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test; non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900685

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH	7.9			8.0
	O2 ppm	8.2			9.0
	Cond.	626			633
	Temp(C)	16.0	15.5	15.0	15.5
100	pH	7.9			8.0
	O2 ppm	8.2			9.0
	Cond.	626			635
	Temp(C)	16.0	15.5	15.0	15.5
Control	pH	7.8			8.3
	O2 ppm	8.4			9.1
	Cond.	535			541
	Temp(C)	16.0	15.5	15.0	15.5
Control	pH	7.8			8.3
	O2 ppm	8.4			9.0
	Cond.	535			541
	Temp(C)	16.0	15.5	15.0	15.5

MISA Trout

TOXICITY TEST REPORT Sample: 03890265

TEST CONDITIONS

Company : Stelco Steel Hilton Works
 Hamilton, ONT
 (950006)
 Region : West Central
 Industry : Iron and Steel
 Control point : East Side Filter Stage 2, (2000)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : P. Peidl
 Date Collected : 11/14/89
 Received : 11/14/89
 Tested : 11/16/89 at: 1000

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
 LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890265

TEST CONC. %	E L A P S E D T I M E					
	00:00	04:00	24:00	48:00	72:00	96:00

Control	pH	7.8				8.5
	O2 ppm	8.8				9.3
	Cond.	561				547
	Temp(C)	15.5	15.0	14.0	14.0	15.0
10	pH	7.9				8.6
	O2 ppm	8.8				9.5
	Cond.	566				559
	Temp(C)	15.5	15.0	14.0	14.0	15.0
20	pH	7.8				8.5
	O2 ppm	8.7				9.5
	Cond.	568				564
	Temp(C)	15.5	15.0	14.0	14.0	15.0
40	pH	7.8				8.4
	O2 ppm	8.9				9.4
	Cond.	570				576
	Temp(C)	15.5	15.0	14.0	14.0	15.0
65	pH	7.8				8.3
	O2 ppm	8.9				9.2
	Cond.	579				587
	Temp(C)	15.5	15.0	14.0	14.0	15.0
100	pH	7.7				8.2
	O2 ppm	9.0				9.3
	Cond.	592				602
	Temp(C)	15.5	15.0	14.0	14.0	15.0

TOXICITY TEST REPORT Sample: 03900178

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : East Side Filter Stage 2, (2000)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 03/06/90
Received : 03/06/90
Tested : 03/07/90 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single test concentration; Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900178

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 7.7 O2 ppm 9.4 Cond. 725 Temp(C) 15.0	14.0	14.0	15.0	15.0
100	pH 7.7 O2 ppm 9.4 Cond. 725 Temp(C) 15.0	14.0	14.0	15.0	15.0
Control	pH 7.9 O2 ppm 9.4 Cond. 545 Temp(C) 15.0	14.0	14.0	15.0	15.0
Control	pH 7.9 O2 ppm 9.4 Cond. 545 Temp(C) 15.0	14.0	14.0	15.0	15.0

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

TEST CONDITIONS	
Company	: Stelco Steel Hilton Works Hamilton, ONT (950006)
Region	: West Central
Industry	: Iron and Steel
Control point	: East Side Filter Stage 2, (2000)

Control point : East Side Filter Stage 2, (2000)

Laboratory	: MOE
Sampling Method	: Grab
Sampled By	: Mark Smithson
Date Collected	: 03/26/90
Received	: 03/28/90
Tested	: 03/30/90 at:

Type of Bioassay : STATIC (Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal	: Rainbow trout
Weight(gm)	:
Length(mm)	:

[illegible]

96 Hour LC50	:	Non-lethal
95% fid. limits	:	0.0 - 0.0 %

Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 01900052

TEST CONC.	ELAPSED TIME
%	00:00 00:30 01:00

	pH	7.3 8.2 560 15.0	7.8 9.8 560 15.0	7.9 9.9 560 15.0	8.0 9.8 570 15.0	7.9 9.8 560 15.0
100	pH O2 ppm Cond. Temp.(C)					
65	pH O2 ppm Cond. Temp.(C)		7.7 9.6 475 15.0	7.8 9.6 470 15.0	7.8 9.8 475 15.0	7.9 9.7 465 15.0
40	pH O2 ppm Cond. Temp.(C)		7.8 9.8 395 15.0	7.9 9.9 395 15.0	8.0 9.8 400 15.0	8.0 9.8 400 15.0
30	pH O2 ppm Cond. Temp.(C)		7.8 9.8 365 15.0	7.9 9.9 365 15.0	8.0 9.8 370 15.0	7.9 9.9 365 15.0
20	pH O2 ppm Cond. Temp.(C)		7.7 9.7 335 15.0	7.7 9.6 335 15.0	7.9 9.8 340 15.0	7.8 9.9 340 15.0
10	pH O2 ppm Cond. Temp.(C)		7.8 9.8 310 15.0	7.8 9.6 310 15.0	7.9 9.8 315 15.0	7.8 9.9 310 15.0
Control	pH O2 ppm Cond. Temp.(C)		7.8 9.9 265 15.0	7.5 9.4 265 15.0	7.8 9.8 270 15.0	7.6 9.6 285 15.0

TOXICITY TEST REPORT Sample: 03900266

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : East Side Filter Stage 2, (2000)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 04/03/90
Received : 04/03/90
Tested : 04/04/90 at: 1125

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	1	1	2	2	20
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : Single concentration test; 10% mort. @ 100%

TOXICITY TEST PARAMETERS

Sample Number: 03900266

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH	7.9		7.9
	O2 ppm	8.5		9.3
	Cond.	774		788
100	Temp(C)	15.0	14.5	14.0 14.5
	pH	7.9		8.0
	O2 ppm	8.5		9.4
Control	Cond.	774		787
	Temp(C)	15.0	14.5	14.0 14.5
	pH	7.9		8.4
Control	O2 ppm	9.1		9.6
	Cond.	534		524
	Temp(C)	15.0	14.5	14.0 14.5
Control	pH	7.9		8.3
	O2 ppm	9.1		9.4
	Cond.	534		527
Control	Temp(C)	15.0	14.5	14.0 14.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900346

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : East Side Filter Stage 2, (2000)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Johnston
Date Collected : 05/01/90
Received : 05/01/90
Tested : 05/02/90 at: 1445

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal; single concentration test

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900346

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00 72:00 96:00

100	pH 7.8 O2 ppm 8.1 Cond. 805 Temp(C) 15.5	15.0	15.0	14.5	8.2 9.7 805 14.5
100	pH 7.8 O2 ppm 8.1 Cond. 805 Temp(C) 15.5	15.0	15.0	14.5	8.2 9.8 809 14.5
Control	pH 7.9 O2 ppm 9.4 Cond. 553 Temp(C) 15.5	15.0	15.0	14.5	8.4 9.9 504 14.5
Control	pH 7.9 O2 ppm 9.4 Cond. 553 Temp(C) 15.5	15.0	15.0	14.5	8.4 9.9 528 14.5

TOXICITY TEST REPORT Sample: 03900445

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : East Side Filter Stage 2, (2000)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 06/05/90
Received : 06/05/90
Tested : 06/06/90 at: 1520

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration test; Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900445

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 7.6 O2 ppm 7.9 Cond. 779 Temp(C) 15.0	15.5	15.5	16.0	16.0
100	pH 7.6 O2 ppm 7.9 Cond. 779 Temp(C) 15.0	15.5	15.5	16.0	16.0
Control	pH 7.8 O2 ppm 8.3 Cond. 541 Temp(C) 15.0	15.5	15.5	16.0	16.0
Control	pH 7.8 O2 ppm 8.3 Cond. 541 Temp(C) 15.0	15.5	15.5	16.0	16.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900555

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel

Control point : East Side Filter Stage 2, (2000)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 07/03/90
Received : 07/03/90
Tested : 07/04/90 at: 1410

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single concentration Test; Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900555

TEST CONC. %
ELAPSED TIME
00:00 24:00 48:00 72:00 96:00

100	pH	7.3				7.7
	O2 ppm	7.5				8.8
	Cond.	736				726
	Temp(C)	15.5	15.0	14.5	15.0	15.0
100	pH	7.3				7.8
	O2 ppm	7.5				8.8
	Cond.	736				736
	Temp(C)	15.5	15.0	14.5	15.0	15.0
Control	pH	7.9				8.3
	O2 ppm	9.8				9.1
	Cond.	531				530
	Temp(C)	15.5	15.0	14.5	15.0	15.0
Control	pH	7.9				8.4
	O2 ppm	9.8				9.2
	Cond.	531				531
	Temp(C)	15.5	15.0	14.5	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900686

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : East Side Filter Stage 2, (2000)
Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Hibberd
Date Collected : 08/14/90
Received : 08/14/90
Tested : 08/15/90 at: 1435

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
100	0	0	0	0	0
Control	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900686

TEST CONC.	ELAPSED TIME			
%	00:00	24:00	48:00	72:00 96:00
100	pH 7.9 O2 ppm 8.5 Cond. 618 Temp(C) 16.0	15.5	15.0	15.5 8.0 9.0 629 15.5
100	pH 7.9 O2 ppm 8.5 Cond. 618 Temp(C) 16.0	15.5	15.0	15.5 8.0 9.1 624 15.5
Control	pH 7.9 O2 ppm 8.2 Cond. 538 Temp(C) 16.0	15.5	15.0	15.5 8.3 9.0 538 15.5
Control	pH 7.9 O2 ppm 8.2 Cond. 538 Temp(C) 16.0	15.5	15.0	15.5 8.3 9.0 537 15.5

COMPANY: Stelco Steel Hilton Works, Hamilton
(950006)
SECTOR: Iron and Steel
REGION: West Central

SUMMARY

Data for 74 *Daphnia magna* acute lethality toxicity tests conducted on samples from nine different sampling points collected between November 1989 and August 1990 were submitted by Stelco Steel Hilton Works of Hamilton. This plant was shut down between August and September due to a labour dispute therefore there were no test results submitted for these months.

Samples from west side open cut (100), northwest outfall (200) and #2 60 inch sewer (1300) were either not acutely lethal to *Daphnia*, or had LC50s > 100%. Audit testing conducted by the Ministry indicated samples from outfall #100 and #200 were not acutely lethal to *Daphnia*. A test conducted in the Ministry laboratory on a sample from outfall #1300 collected in March had a 48 h LC50 > 100%.

Eight of ten samples from east side filter stage 1 (1900) were not acutely lethal to *Daphnia*. One sample had an LC50 > 100% and the January sample induced the unusual toxicity curve (bell shaped) described for some effluents from Dofasco. Five of ten samples from east side filter stage 2 (2000) were not acutely lethal to *Daphnia* and three samples had LC50s > 100 %. Two samples (January and March) induced the bell shaped toxicity curve. Ministry audits of these outfalls conducted on samples collected in March indicated the samples were not acutely lethal to *Daphnia*.

Five of ten samples from north outfall (400) and two of four samples from east side filter (601) were not acutely lethal to *Daphnia*. One sample from each had a bell shaped lethality curve, and the remaining samples had LC50s > 100 %. Ministry audit tests of each of these outfalls were nonlethal.

#1 60 inch sewer (602), #2 rod mill (1100), and 20 inch mill (1200) effluents were the most toxic from this company. Three samples from the #1 60 " sewer were nonlethal, three samples had LC50s > 100 % and the November sample induced the unusual bell curve response. The remaining three samples had 48 h LC50s of 50, 56 and 70 % effluent. There were two nonlethal samples from the #2 rod mill and none from the 20 " mill. Two samples from the #2 rod mill had LC50s > 100%, and the November sample induced the bell shaped lethality response. The remaining four samples had 48 h LC50s of 41, 54, 78 and 84 % effluent. Four samples from the 20" mill had LC50s > 100 %, and the remaining two samples generated LC50s of 12 and 32 % effluent. Sample tested in the Ministry laboratory in March were not acutely lethal to *Daphnia*.

Stelco Steel Hilton Works (continued)

West Side Open Cut

03900031	sampled: 01/16/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non Lethal	
02900057	sampled: 03/28/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:		
03900262	sampled: 04/03/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	
03900350	sampled: 05/01/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	
03900439	sampled: 06/05/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non lethal	
03900591	sampled: 07/10/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:	LC50 > 100	
03900680	sampled: 08/14/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	

Northwest Outfall

03900032	sampled: 01/16/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non Lethal	
02900056	sampled: 03/28/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
03900263	sampled: 04/03/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	
03900367	sampled: 05/08/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:	LC50 >100	
03900440	sampled: 06/05/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non lethal	

Stelco Steel Hilton Works (continued)

03900556 sampled: 07/03/90 non-lethal
 95% fid. limits: 0.0 - 0.0 %
 comments: Non lethal

03900681 sampled: 08/14/90 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments: LC50 >100

North Outfall

03890263 sampled: 11/14/89 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments: LC50 >100%

03890320 sampled: 12/05/89 non-lethal
 95% fid. limits: 0.0 - 0.0 %
 comments: Non-lethal

03900033 sampled: 01/16/90 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments: LC50 >100

03900088 sampled: 02/06/90 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments: LC50 >100

03900175 sampled: 03/06/90 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments: LC50>100

02900058 sampled: 03/28/90 LC50: 5.0 - 15.0 %
 95% fid. limits: 0.0 - 0.0 %
 comments: MISA Audit

03900264 sampled: 04/03/90 non-lethal
 95% fid. limits: 0.0 - 0.0 %
 comments: Non-lethal

03900348 sampled: 05/01/90 non-lethal
 95% fid. limits: 0.0 - 0.0 %
 comments: Non-lethal

03900441 sampled: 06/05/90 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments: LC50 > 100

03900552 sampled: 07/03/90 non-lethal
 95% fid. limits: 0.0 - 0.0 %
 comments: Non lethal

Stelco Steel Hilton Works (continued)

03900682 sampled: 08/14/90 non-lethal
 95% fid. limits: 0.0 - 0.0 %
 comments: Non-lethal

East Side Filter

03890323 sampled: 12/05/89 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments: LC50 >100%

03890319 sampled: 12/05/89 non-lethal
 95% fid. limits: 0.0 - 0.0 %
 comments: Non-lethal

03900027 sampled: 01/16/90 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments: LC50 >100

03900028 sampled: 01/16/90 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments: LC50 >100

03900086 sampled: 02/06/90 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments: LC50 >100

03900085 sampled: 02/06/90 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments: LC50 >100

#1 60 inch Sewer

03890268 sampled: 11/14/89 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments: LC50 >100%

03890318 sampled: 12/05/89 LC50: 70.7 %
 95% fid. limits: 50.0 - 100.0 %
 comments:

03900067 sampled: 01/24/90 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments: LC50 >100

03900091 sampled: 02/06/90 LC50: 49.7 %
 95% fid. limits: 36.9 - 66.9 % slope: 3.8
 comments: Lethal

03900176 sampled: 03/06/90 LC50: 56.1 %
 95% fid. limits: 44.0 - 71.3 %
 comments: Lethal

Stelco Steel Hilton Works (continued)

02900050 sampled: 03/26/90 non-lethal
 95% fid. limits: 0.0 - 0.0 %
 comments: High DO

03900268 sampled: 04/03/90 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments: LC50 >100

03900344 sampled: 05/01/90 non-lethal
 95% fid. limits: 0.0 - 0.0 %
 comments: Non-lethal

03900442 sampled: 06/05/90 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments: LC50 > 100

03900551 sampled: 07/03/90 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments: LC50 > 100

03900683 sampled: 08/14/90 non-lethal
 95% fid. limits: 0.0 - 0.0 %
 comments: Non-lethal

#2 Rod Mill

03890266 sampled: 11/14/89 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments: LC50 >100%

03890321 sampled: 12/05/89 LC50: 84.6 %
 95% fid. limits: 59.3 - 120.5 % slope: 3.2
 comments:

03900030 sampled: 01/16/90 LC50: 78.0 %
 95% fid. limits: 65.1 - 93.4 % slope: 9.0
 comments: Lethal

03900089 sampled: 02/06/90 LC50: 41.2 %
 95% fid. limits: 31.5 - 53.8 % slope: 4.3
 comments: Lethal

03900179 sampled: 03/06/90 LC50: 54.4 %
 95% fid. limits: 42.0 - 70.6 % slope: 5.7
 comments: Lethal

02900055 sampled: 03/27/90 non-lethal
 95% fid. limits: 0.0 - 0.0 %
 comments: Many floaters at 60% and 100%.

Stelco Steel Hilton Works (continued)

03900269 sampled: 04/03/90 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments: LC50 >100

03900343 sampled: 05/01/90 non-lethal
 95% fid. limits: 0.0 - 0.0 %
 comments: Non-lethal

03900443 sampled: 06/05/90 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments: LC50 > 100

03900550 sampled: 07/03/90 non-lethal
 95% fid. limits: 0.0 - 0.0 %
 comments: Non lethal

20 inch Mill

03890267 sampled: 11/14/89 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments: LC50 > 100%

03890322 sampled: 12/05/89 LC50: 11.9 %
 95% fid. limits: 6.3 - 22.4 %
 comments:

03900029 sampled: 01/16/90 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments: LC50 >100

03900090 sampled: 02/06/90 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments: LC50 >100

03900180 sampled: 03/06/90 LC50: 32.2 %
 95% fid. limits: 16.5 - 81.4 % slope: 1.3
 comments: Lethal

03900270 sampled: 04/03/90 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments: LC50 >100

#2 60 inch Sewer

02900049 sampled: 03/26/90 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments:

03900267 sampled: 04/03/90 non-lethal
 95% fid. limits: 0.0 - 0.0 %
 comments: Non-lethal

Stelco Steel Hilton Works (continued)

03900557 sampled: 07/03/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 > 100

03900684 sampled: 08/14/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

East Side Filter OW

Rain Gauge

Intake Water

East Side Filter Stage 1

03890264 sampled: 11/14/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900177 sampled: 03/06/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

02900053 sampled: 03/26/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900265 sampled: 04/03/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900345 sampled: 05/01/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900444 sampled: 06/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900554 sampled: 07/03/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900685 sampled: 08/14/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

Stelco Steel Hilton Works (continued)

East Side Filter Stage 2

03890265	sampled: 11/14/89	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	
03900178	sampled: 03/06/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:	Lethal; No concentration:effect relationship	
02900052	sampled: 03/26/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	MISA Audit	
03900266	sampled: 04/03/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	
03900346	sampled: 05/01/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	
03900445	sampled: 06/05/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non lethal	
03900555	sampled: 07/03/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non lethal	
03900686	sampled: 08/14/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	

TOXICITY TEST REPORT Sample: 03900031

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : West Side Open Cut, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 01/16/90
Received : 01/16/90
Tested : 01/17/90 at: 950

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non Lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900031

TEST CONC. % E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.6 O2 ppm 9.3 Cond. 745 Temp(C) 20.0	19.0	8.2 8.6 743 20.0
50	pH 8.5 O2 ppm 9.0 Cond. 523 Temp(C) 20.0	19.0	8.3 8.7 521 20.0
25	pH 8.5 O2 ppm 8.8 Cond. 410 Temp(C) 20.0	19.0	8.3 8.8 411 20.0
13	pH 8.4 O2 ppm 8.8 Cond. 357 Temp(C) 20.0	19.0	8.3 8.9 360 20.0
6	pH 8.4 O2 ppm 8.8 Cond. 327 Temp(C) 20.0	19.0	8.3 8.8 330 20.0
Control	pH 8.4 O2 ppm 8.8 Cond. 296 Temp(C) 20.0	19.0	8.3 8.8 297 20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 02900057

TEST CONDITIONS

Company : Stelco Steel, Hilton Works
Hamilton, ONT
(950006)Region : West Central
Industry : Iron and Steel

Control point : West Side Open Cut, (100)

Laboratory : MOE
Sampling Method : Grab
Sampled By : Mark Smithson
Date Collected : 03/28/90
Received : 03/29/90
Tested : 03/30/90 at: 1200Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	24:00	48:00	%
100	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0
15	0	0	0	0	0	1	8
5	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 02900057

TEST CONC. %	E L A P S E D T I M E				
	00:00	01:00	02:00	04:00	24:00 48:00

100	pH 8.3				8.1
	O2 ppm 9.8				8.1
	Cond. 818				806
	Temp(C) 20.0				20.0
60	pH 8.2				8.0
	O2 ppm 9.4				8.3
	Cond. 621				612
	Temp(C) 20.0				20.0
30	pH 8.0				8.0
	O2 ppm 9.2				8.4
	Cond. 468				463
	Temp(C) 20.0				20.0
15	pH 8.0				7.9
	O2 ppm 9.0				8.4
	Cond. 390				388
	Temp(C) 20.0				20.0
5	pH 7.9				7.9
	O2 ppm 8.9				8.4
	Cond. 342				343
	Temp(C) 20.0				20.0
Control	pH 7.7				7.8
	O2 ppm 9.0				8.4
	Cond. 314				314
	Temp(C) 20.0				20.0

TOXICITY TEST REPORT Sample: 03900262

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : West Side Open Cut, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 04/03/90
Received : 04/03/90 at: 1110
Tested : 04/04/90

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	ELAPSED TIME	TOTAL MORTALITY
100	0	0 0 0	0
50	0	0 0 0	0
25	0	0 0 0	0
13	0	0 0 0	0
6	0	0 0 0	0
Control	0	0 0 0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900262

TEST CONC. %
ELAPSED TIME
00:00 24:00 48:00

100	pH 8.6 O2 ppm 8.9 Cond. 945 Temp(C) 19.5	8.1 7.4 904 19.5
50	pH 8.5 O2 ppm 8.8 Cond. 626 Temp(C) 19.5	8.2 8.3 607 19.5
25	pH 8.4 O2 ppm 8.8 Cond. 462 Temp(C) 19.5	8.4 8.6 448 19.5
13	pH 8.4 O2 ppm 8.8 Cond. 383 Temp(C) 19.5	8.4 8.8 371 19.5
6	pH 8.4 O2 ppm 8.8 Cond. 339 Temp(C) 19.5	8.4 8.8 328 19.5
Control	pH 8.4 O2 ppm 8.9 Cond. 302 Temp(C) 19.5	8.4 8.8 293 19.5

HISA Daphnia

TOXICITY TEST REPORT Sample: 03900350

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)

Region : West Central
Industry : Iron and Steel

Control point : West Side Open Cut, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Johnston
Date Collected : 05/01/90
Received : 05/01/90
Tested : 05/02/90 at: 1230

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900350
TEST CONC. %
ELAPSED TIME
00:00 24:00 48:00

100	pH 8.3 O2 ppm 9.1 Cond. 817 Temp(C) 20.0	8.1 8.6 8.19 19.0
50	pH 8.3 O2 ppm 9.1 Cond. 560 Temp(C) 20.0	8.3 8.7 561 19.0
25	pH 8.3 O2 ppm 9.1 Cond. 433 Temp(C) 20.0	8.3 8.7 430 19.0
13	pH 8.3 O2 ppm 9.0 Cond. 368 Temp(C) 20.0	8.3 8.9 369 19.0
6	pH 8.3 O2 ppm 9.0 Cond. 331 Temp(C) 20.0	8.3 8.8 333 19.0
Control	pH 8.4 O2 ppm 9.0 Cond. 299 Temp(C) 20.0	8.3 9.3 304 19.0

TOXICITY TEST REPORT Sample: 03900439

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel

Control point : West Side Open Cut, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 06/05/90
Received : 06/05/90
Tested : 06/06/90 at: 1115

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 24:00 48:00	%
100	0 0 0	0
50	0 0 0	0
25	0 0 0	0
13	0 0 0	0
6	0 0 0	0
Control	0 0 0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900439

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.0 O2 ppm 8.8 Cond. 772 Temp(C) 20.5	7.9 8.4 768 19.5
50	pH 8.2 O2 ppm 9.0 Cond. 535 Temp(C) 20.5	8.0 8.7 737 19.5
25	pH 8.3 O2 ppm 9.0 Cond. 414 Temp(C) 20.5	8.1 8.8 416 19.5
13	pH 8.3 O2 ppm 9.1 Cond. 359 Temp(C) 20.5	8.1 8.8 361 19.5
6	pH 8.3 O2 ppm 9.1 Cond. 325 Temp(C) 20.5	8.1 8.8 327 19.5
Control	pH 8.3 O2 ppm 9.1 Cond. 296 Temp(C) 20.5	8.2 8.8 297 19.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900591

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)

Region : West Central
Industry : Iron and Steel

Control point : West Side Open Cut, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 07/10/90
Received : 07/12/90
Tested : 07/12/90 at: 1535

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	1	1	8
25	0	0	0	0
13	0	1	1	8
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 > 100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900591

TEST CONC. %
ELAPSED TIME
00:00 24:00 48:00

100	pH 8.2 O2 ppm 8.7 Cond. 692 Temp(C) 20.5	8.2 8.7 692 20.5	8.1 8.7 690 20.5	8.1 8.7 690 20.5
50	pH 8.2 O2 ppm 8.9 Cond. 497 Temp(C) 20.5	8.2 8.9 497 20.5	8.2 8.8 497 20.5	8.2 8.8 497 20.5
25	pH 8.2 O2 ppm 9.0 Cond. 399 Temp(C) 20.5	8.2 9.0 399 20.5	8.3 8.8 399 20.5	8.3 8.8 399 20.5
13	pH 8.2 O2 ppm 9.0 Cond. 354 Temp(C) 20.5	8.2 9.0 354 20.5	8.3 8.9 354 20.5	8.3 8.9 354 20.5
6	pH 8.2 O2 ppm 9.0 Cond. 327 Temp(C) 20.5	8.2 9.0 327 20.5	8.3 8.9 327 20.5	8.3 8.9 327 20.5
Control	pH 8.2 O2 ppm 9.0 Cond. 308 Temp(C) 20.5	8.2 9.0 308 20.5	8.3 9.0 307 20.5	8.3 9.0 307 20.5

TOXICITY TEST REPORT Sample: 03900680

TEST CONDITIONS

Company : Stelco Steel Hilton Works
 Hamilton, ONT
 (950006)
 Region : West Central
 Industry : Iron and Steel
 Control point : West Side Open Cut, (100)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : T. Hibberd
 Date Collected : 08/14/90
 Received : 08/14/90
 Tested : 08/15/90 at: 1215

Type of Bioassay : STATIC
 (Daphnia magna Acute Lethality Toxicity
 Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D	T I M E	TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900680

TEST
CONC.
%

E L A P S E D

T I M E

00:00 24:00 48:00

100	pH 8.3 O2 ppm 9.0 Cond. 1074 Temp(C) 19.5	8.0 8.5 1079 20.5	8.0 8.5 1079 20.0
50	pH 8.3 O2 ppm 9.1 Cond. 680 Temp(C) 19.5	8.1 8.6 677 20.5	8.1 8.6 677 20.0
25	pH 8.3 O2 ppm 9.1 Cond. 485 Temp(C) 19.5	8.2 8.6 486 20.5	8.2 8.6 486 20.0
13	pH 8.3 O2 ppm 9.2 Cond. 401 Temp(C) 19.5	8.2 8.7 402 20.5	8.2 8.7 402 20.0
6	pH 8.4 O2 ppm 9.1 Cond. 339 Temp(C) 19.5	8.2 8.7 347 20.5	8.2 8.7 347 20.0
Control	pH 8.3 O2 ppm 9.2 Cond. 289 Temp(C) 19.5	8.2 8.7 305 20.5	8.2 8.7 305 20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900032

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)

Region : West Central
Industry : Iron and Steel

Control point : Northwest Outfall, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Piedl
Date Collected : 01/16/90
Received : 01/16/90
Tested : 01/17/90 at: 955

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non Lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900032

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.1 O2 ppm 9.2 Cond. 604 Temp(C) 20.0	19.0	8.1 8.8 605 20.0
50	pH 8.2 O2 ppm 9.0 Cond. 452 Temp(C) 20.0	19.0	8.2 8.8 451 20.0
25	pH 8.3 O2 ppm 8.9 Cond. 374 Temp(C) 20.0	19.0	8.3 8.8 374 20.0
13	pH 8.4 O2 ppm 8.8 Cond. 337 Temp(C) 20.0	19.0	8.3 8.8 337 20.0
6	pH 8.3 O2 ppm 8.6 Cond. 316 Temp(C) 20.0	19.0	8.3 8.7 315 20.0
Control	pH 8.4 O2 ppm 8.8 Cond. 296 Temp(C) 20.0	19.0	8.3 8.5 296 20.0

TOXICITY TEST REPORT Sample: 02900056

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel

Control point : Northwest Outfall, (200)

Laboratory : MOE
Sampling Method : Grab
Sampled By : Mark Smithson
Date Collected : 03/28/90
Received : 03/29/90
Tested : 03/30/90 at: 1130

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	24:00	48:00		%
100	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0
Control	7	0	0	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 02900056

TEST CONC. %
E L A P S E D T I M E
00:00 01:00 02:00 04:00 24:00 48:00

100	pH 8.0	02 ppm 10.5	Cond. 656	Temp(C) 20.0	8.0	8.1	636	20.0
60	pH 8.0	02 ppm 9.7	Cond. 525	Temp(C) 20.0	17.9	8.2	514	20.0
30	pH 7.9	02 ppm 9.4	Cond. 420	Temp(C) 20.0	7.8	8.0	416	20.0
15	pH 7.9	02 ppm 9.2	Cond. 369	Temp(C) 20.0	7.8	8.1	367	20.0
5	pH 7.8	02 ppm 9.1	Cond. 334	Temp(C) 20.0	7.8	8.5	333	20.0
Control	pH 8.0	02 ppm 9.1	Cond. 315	Temp(C) 20.0	7.8	8.4	316	20.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900263

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : Northwest Outfall, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 04/03/90
Received : 04/03/90
Tested : 04/04/90 at: 1120

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol, OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900263

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.3 O2 ppm 9.0 Cond. 756 Temp(C) 19.5	8.3 8.3 756 19.5	8.3 8.5 732 19.5
50	pH 8.3 O2 ppm 8.9 Cond. 528 Temp(C) 19.5	8.3 8.9 528 19.5	8.3 8.7 509 19.5
25	pH 8.4 O2 ppm 8.8 Cond. 414 Temp(C) 19.5	8.4 8.8 414 19.5	8.4 8.9 401 19.5
13	pH 8.4 O2 ppm 8.8 Cond. 360 Temp(C) 19.5	8.4 8.8 360 19.5	8.4 8.9 348 19.5
6	pH 8.4 O2 ppm 8.8 Cond. 329 Temp(C) 19.5	8.4 8.8 329 19.5	8.4 8.9 317 19.5
Control	pH 8.4 O2 ppm 8.9 Cond. 302 Temp(C) 19.5	8.4 8.9 302 19.5	8.5 8.9 294 19.5

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900367

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : Northwest Outfall, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 05/08/90
Received : 05/08/90
Tested : 05/09/90 at: 1205

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	1	8
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900367

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.0	8.2
	O2 ppm 8.7	8.4
	Cond. 755	750
	Temp(C) 19.0	20.5 19.0
50	pH 8.1	8.3
	O2 ppm 8.7	8.6
	Cond. 523	528
	Temp(C) 19.0	20.5 19.0
25	pH 8.1	8.3
	O2 ppm 8.7	8.6
	Cond. 413	418
	Temp(C) 19.0	20.5 19.0
13	pH 8.1	8.3
	O2 ppm 8.7	8.7
	Cond. 358	361
	Temp(C) 19.0	20.5 19.0
6	pH 8.2	8.3
	O2 ppm 8.7	8.8
	Cond. 327	334
	Temp(C) 19.0	20.5 19.0
Control	pH 8.3	8.3
	O2 ppm 8.9	8.8
	Cond. 299	305
	Temp(C) 19.0	20.5 19.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900440

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)Region : West Central
Industry : Iron and Steel

Control point : Northwest Outfall, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 06/05/90
Received : 06/05/90
Tested : 06/06/90 at: 1055Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900440

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.1	02 ppm 9.0	8.0
	Cond. 700		8.5
	Temp(C) 20.5	19.5	721
			19.5
50	pH 8.2	02 ppm 9.1	8.0
	Cond. 496		8.7
	Temp(C) 20.5	19.5	515
			19.5
25	pH 8.3	02 ppm 9.1	8.1
	Cond. 394		8.8
	Temp(C) 20.5	19.5	408
			19.5
13	pH 8.3	02 ppm 9.1	8.1
	Cond. 344		8.8
	Temp(C) 20.5	19.5	357
			19.5
6	pH 8.3	02 ppm 9.1	8.2
	Cond. 316		8.9
	Temp(C) 20.5	19.5	328
			19.5
Control	pH 8.3	02 ppm 9.1	8.2
	Cond. 296		8.8
	Temp(C) 20.5	19.5	297
			19.5

TOXICITY TEST REPORT Sample: 03900556

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : Northwest Outfall, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 07/03/90
Received : 07/03/90
Tested : 07/04/90 at: 1500

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol, OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900556

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.9 O2 ppm 9.0 Cond. 652 Temp(C) 21.0	20.0	7.9 8.0 649 20.0
50	pH 8.1 O2 ppm 9.0 Cond. 475 Temp(C) 21.0	20.0	8.1 8.2 480 20.0
25	pH 8.3 O2 ppm 9.0 Cond. 386 Temp(C) 21.0	20.0	8.2 8.3 388 20.0
13	pH 8.3 O2 ppm 9.0 Cond. 345 Temp(C) 21.0	20.0	8.2 8.3 345 20.0
6	pH 8.3 O2 ppm 9.0 Cond. 321 Temp(C) 21.0	20.0	8.2 8.3 322 20.0
Control	pH 8.5 O2 ppm 9.2 Cond. 297 Temp(C) 21.0	20.0	8.3 8.4 304 20.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900681

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)Region : West Central
Industry : Iron and Steel

Control point : Northwest Outfall, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Hibberd
Date Collected : 08/14/90
Received : 08/14/90
Tested : 08/15/90 at: 1230Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	0	1	8
25	0	0	0	0
13	0	0	0	0
6	0	1	1	8
Control	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900681

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.2 O2 ppm 8.9 Cond. 578 Temp(C) 19.5	20.5	8.0 8.1 576 20.5
50	pH 8.3 O2 ppm 9.1 Cond. 430 Temp(C) 19.5	20.5	8.1 8.4 434 20.5
25	pH 8.3 O2 ppm 9.1 Cond. 369 Temp(C) 19.5	20.5	8.1 8.5 366 20.5
13	pH 8.3 O2 ppm 9.1 Cond. 335 Temp(C) 19.5	20.5	8.2 8.6 332 20.5
6	pH 8.4 O2 ppm 9.0 Cond. 311 Temp(C) 19.5	20.5	8.3 8.7 313 20.5
Control	pH 8.3 O2 ppm 9.2 Cond. 289 Temp(C) 19.5	20.5	8.1 8.8 300 20.5

TOXICITY TEST REPORT Sample: 03890263

TEST CONDITIONSCompany : Stelco Steel Hilton Works
Hamilton, ONT
(950006)Region : West Central
Industry : Iron and Steel

Control point : North Outfall, (400)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 11/14/89
Received : 11/14/89
Tested : 11/18/89 at: 1600Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. ONE, 1988)Test Animal : D. magna
Weight(gm) :
Length(mm) :MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	2	2	16
100	0	0	0	0	0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 >100%

TOXICITY TEST PARAMETERS

Sample Number: 03890263

TEST CONC. %
E L A P S E D T I M E
00:00 04:00 24:00 48:00

Control	pH 7.9	8.3		
	O2 ppm 8.9	9.7		
	Cond. 303	295		
	Temp.(C) 20.0	20.0	19.0	19.5
6	pH 8.0	8.4		
	O2 ppm 8.8	9.4		
	Cond. 312	328		
	Temp.(C) 20.0	20.0	19.0	19.5
13	pH 8.0	8.3		
	O2 ppm 9.0	9.4		
	Cond. 334	338		
	Temp.(C) 20.0	20.0	19.0	19.5
25	pH 8.0	8.3		
	O2 ppm 9.1	9.3		
	Cond. 366	367		
	Temp.(C) 20.0	20.0	19.0	19.5
50	pH 8.0	8.3		
	O2 ppm 9.0	9.2		
	Cond. 432	428		
	Temp.(C) 20.0	20.0	19.0	19.5
100	pH 7.9	8.3		
	O2 ppm 9.0	9.2		
	Cond. 557	554		
	Temp.(C) 20.0	20.0	19.0	19.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890320

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : North Outfall, (400)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 12/05/89
Received : 12/05/89
Tested : 12/06/89 at: 1105

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890320

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.1 O2 ppm 9.4 Cond. 575 Temp(C) 19.0	8.1 9.4 575 19.0	8.1 8.5 578 19.5
50	pH 8.2 O2 ppm 9.0 Cond. 433 Temp(C) 19.0	8.2 9.0 433 19.0	8.2 8.8 444 19.5
25	pH 8.3 O2 ppm 8.9 Cond. 366 Temp(C) 19.0	8.3 8.9 366 19.0	8.3 8.9 376 19.5
13	pH 8.3 O2 ppm 9.0 Cond. 333 Temp(C) 19.0	8.3 9.0 333 19.0	8.3 8.8 338 19.5
6	pH 8.3 O2 ppm 9.0 Cond. 307 Temp(C) 19.0	8.3 9.0 307 19.0	8.2 9.0 340 19.5
Control	pH 8.4 O2 ppm 8.9 Cond. 293 Temp(C) 19.0	8.4 8.9 293 19.0	8.3 9.0 306 19.5

TOXICITY TEST REPORT Sample: 03900033

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : North Outfall, (400)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 01/16/90
Received : 01/16/90
Tested : 01/17/90 at: 1045

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	ELAPSED TIME	TOTAL MORTALITY
100	0	00:00 24:00 48:00	10
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900033

TEST CONC. %
ELAPSED TIME
00:00 24:00 48:00

100	pH 8.7 O2 ppm 9.2 Cond. 593 Temp(C) 20.0	8.3 8.7 8.7 596 20.0	19.0 20.0
50	pH 8.6 O2 ppm 9.1 Cond. 442 Temp(C) 20.0	8.3 8.8 445 20.0	19.0 20.0
25	pH 8.5 O2 ppm 8.9 Cond. 369 Temp(C) 20.0	8.3 8.9 374 20.0	19.0 20.0
13	pH 8.4 O2 ppm 8.9 Cond. 337 Temp(C) 20.0	8.3 8.9 340 20.0	19.0 20.0
6	pH 8.4 O2 ppm 8.9 Cond. 313 Temp(C) 20.0	8.3 8.8 318 20.0	19.0 20.0
Control	pH 8.4 O2 ppm 8.8 Cond. 296 Temp(C) 20.0	8.3 8.5 292 20.0	19.0 20.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900088

TEST CONDITIONS

Company : Steelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : North Outfall, (400)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 02/06/90
Received : 02/06/90
Tested : 02/07/90 at: 1055

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	16
25	0	2	16
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900088

TEST CONC. %
ELAPSED TIME
00:00 24:00 48:00

100	pH	8.7	8.4
	O2 ppm	8.8	8.3
	Cond.	670	671
	Temp(C)	20.0	20.0
50	pH	8.6	8.4
	O2 ppm	8.6	8.4
	Cond.	484	487
	Temp(C)	20.0	20.0
25	pH	8.5	8.4
	O2 ppm	8.5	8.4
	Cond.	394	397
	Temp(C)	20.0	20.0
13	pH	8.5	8.4
	O2 ppm	8.5	8.5
	Cond.	349	351
	Temp(C)	20.0	20.0
6	pH	8.5	8.4
	O2 ppm	8.4	8.4
	Cond.	322	322
	Temp(C)	20.0	20.0
Control	pH	8.5	8.4
	O2 ppm	8.7	8.8
	Cond.	300	301
	Temp(C)	20.0	20.0

TOXICITY TEST REPORT Sample: 03900175

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : North Outfall, (400)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 03/06/90
Received : 03/06/90
Tested : 03/07/90 at: 1510

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 24:00 48:00	%
100	0 0 0	0
50	0 0 0	0
25	0 1 1	8
13	0 0 0	0
6	0 0 0	0
Control	0 0 0	0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50>100

TOXICITY TEST PARAMETERS

Sample Number: 03900175

TEST E L A P S E D T I M E
CONC. % 00:00 24:00 48:00

100	pH 8.2	8.2	8.2
	O2 ppm 9.2	9.2	8.2
	Cond. 722	722	729
	Temp(C) 19.5	19.5	20.0
50	pH 8.4	8.3	8.3
	O2 ppm 9.0	8.3	8.3
	Cond. 513	513	516
	Temp(C) 19.5	19.5	20.0
25	pH 8.4	8.3	8.3
	O2 ppm 8.7	8.4	8.4
	Cond. 407	407	510
	Temp(C) 19.5	19.5	20.0
13	pH 8.5	8.4	8.4
	O2 ppm 8.7	8.4	8.4
	Cond. 358	358	360
	Temp(C) 19.5	19.5	20.0
6	pH 8.5	8.4	8.4
	O2 ppm 8.7	8.5	8.5
	Cond. 329	329	326
	Temp(C) 19.5	19.5	20.0
Control	pH 8.6	8.4	8.4
	O2 ppm 8.9	8.4	8.4
	Cond. 298	298	300
	Temp(C) 19.5	19.5	20.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 02900058

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : North Outfall, (400)
Laboratory : MOE
Sampling Method : Grab
Sampled By : Mark Smithson
Date Collected : 03/28/90
Received : 03/29/90
Tested : 03/30/90 at: 1300

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	00:30	01:00	02:00	24:00	48:00	%	
100	0	0	0	0	12	12	100	
60	0	0	0	0	12	12	100	
30	0	0	0	0	12	12	100	
15	0	0	0	0	12	12	100	
5	0	0	0	0	0	0	0	
Control	0	0	0	0	0	0	0	

48 Hour LC50 : 5.0 - 15.0 %

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 02900058

TEST CONC.	E L A P S E D T I M E						
%	00:00	00:30	01:00	02:00	24:00	48:00	
100	pH 8.1 O2 ppm 10.3 Cond. 640 Temp(C) 20.0	8.1 10.3 640 20.0				8.2 8.5 645 20.0	
60	pH 8.1 O2 ppm 9.5 Cond. 505 Temp(C) 20.0	8.1 9.5 505 20.0				8.1 8.4 510 20.0	
30	pH 8.0 O2 ppm 9.2 Cond. 410 Temp(C) 20.0	8.0 9.2 410 20.0				8.0 8.4 415 20.0	
15	pH 7.9 O2 ppm 9.1 Cond. 360 Temp(C) 20.0	7.9 9.1 360 20.0				8.0 8.4 365 20.0	
5	pH 7.9 O2 ppm 9.1 Cond. 330 Temp(C) 20.0	7.9 9.1 330 20.0				7.9 8.4 335 20.0	
Control	pH 7.9 O2 ppm 9.0 Cond. 310 Temp(C) 20.0	7.9 9.0 310 20.0				8.0 8.4 315 20.0	

TOXICITY TEST REPORT Sample: 03900264

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel

Control point : North Outfall, (400)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 04/03/90
Received : 04/03/90
Tested : 04/04/90 at: 1130

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. ONE, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 24:00 48:00	%
100	0 0 0	0
50	0 0 0	0
25	0 0 0	0
13	0 0 0	0
6	0 0 0	0
Control	0 0 0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900264

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.4 O2 ppm 9.1 Cond. 733 Temp(C) 19.5	8.3 8.6 708 19.5
50	pH 8.4 O2 ppm 9.0 Cond. 516 Temp(C) 19.5	8.4 8.9 504 19.0
25	pH 8.4 O2 ppm 8.9 Cond. 410 Temp(C) 19.5	8.4 8.9 398 19.0
13	pH 8.4 O2 ppm 8.8 Cond. 357 Temp(C) 19.5	8.4 8.9 348 19.0
6	pH 8.4 O2 ppm 8.8 Cond. 325 Temp(C) 19.5	8.4 8.9 316 19.0
Control	pH 8.4 O2 ppm 8.9 Cond. 302 Temp(C) 19.5	8.4 8.9 293 19.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900348

TEST CONDITIONSCompany : Stelco Steel Hilton Works
Hamilton, ONT
(950006)Region : West Central
Industry : Iron and Steel

Control point : North Outfall, (400)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Johnston
Date Collected : 05/01/90
Received : 05/01/90
Tested : 05/02/90 at: 1200Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)Test Animal : D. magna
Weight(gm) :
Length(mm) :MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900348

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.2 O2 ppm 9.2 Cond. 755 Temp(C) 20.0	8.1 8.8 757 19.0
50	pH 8.2 O2 ppm 9.1 Cond. 531 Temp(C) 20.0	8.2 9.0 530 19.0
25	pH 8.3 O2 ppm 9.1 Cond. 416 Temp(C) 20.0	8.3 9.1 419 19.0
13	pH 8.3 O2 ppm 9.0 Cond. 361 Temp(C) 20.0	8.3 9.2 361 19.0
6	pH 8.3 O2 ppm 9.0 Cond. 327 Temp(C) 20.0	8.3 9.1 330 19.0
Control	pH 8.4 O2 ppm 9.0 Cond. 299 Temp(C) 20.0	8.3 9.3 304 19.0

TOXICITY TEST REPORT Sample: 03900441

TEST CONDITIONSCompany : Stelco Steel Hilton Works
Hamilton, ONT
(950006)Region : West Central
Industry : Iron and Steel

Control point : North Outfall, (400)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 06/05/90
Received : 06/05/90
Tested : 06/06/90 at: 1100Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)Test Animal : D. magna
Weight(gm) :
Length(mm) :MORTALITY DATA

TEST CONC.	%	00:00	24:00	48:00	%	TOTAL MORTALITY
100		0	1	1	8	
50		0	0	0	0	
25		0	0	0	0	
13		0	0	0	0	
6		0	0	0	0	
Control		0	0	0	0	

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 > 100

TOXICITY TEST PARAMETERS

Sample Number: 03900441

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH O2 ppm Cond. Temp(C)	8.1 9.2 718 20.5	19.5	7.9 8.5 719 19.5
50	pH O2 ppm Cond. Temp(C)	8.3 9.2 512 20.5	19.5	8.0 8.7 513 19.5
25	pH O2 ppm Cond. Temp(C)	8.3 9.1 404 20.5	19.5	8.1 8.8 407 19.5
13	pH O2 ppm Cond. Temp(C)	8.3 9.1 353 20.5	19.5	8.1 8.8 357 19.5
6	pH O2 ppm Cond. Temp(C)	8.3 9.1 326 20.5	19.5	8.2 8.8 327 19.5
Control	pH O2 ppm Cond. Temp(C)	8.3 9.1 296 20.5	19.5	8.1 8.8 302 19.5

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900552

TEST CONDITIONS

Company : Steelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : North Outfall, (400)
Laboratory : BAR
Sampling Method : 400
Sampled By : P. Peidl
Date Collected : 07/03/90
Received : 07/03/90
Tested : 07/04/90 at: 1040

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900552

TEST CONC. % E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.1	8.0
	O2 ppm 9.2	8.3
	Cond. 659	660
	Temp(C) 20.0	20.0 19.5
50	pH 8.3	8.1
	O2 ppm 9.2	8.5
	Cond. 482	497
	Temp(C) 20.0	20.0 19.5
25	pH 8.3	8.2
	O2 ppm 9.2	8.5
	Cond. 393	391
	Temp(C) 20.0	20.0 19.5
13	pH 8.4	8.2
	O2 ppm 9.2	8.6
	Cond. 349	347
	Temp(C) 20.0	20.0 19.5
6	pH 8.4	8.2
	O2 ppm 9.2	8.6
	Cond. 323	320
	Temp(C) 20.0	20.0 19.5
Control	pH 8.5	8.3
	O2 ppm 9.2	8.7
	Cond. 297	300
	Temp(C) 20.0	20.0 19.5

SLOPE of Mortality Curve :
LC50 Calculated By :

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900682

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel

Control point : North Outfall, (400)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Hibberd
Date Collected : 08/14/90
Received : 08/14/90
Tested : 08/15/90 at: 1355

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

Sample Number: 03900682

TEST CONC. %
ELAPSED TIME
00:00 24:00 48:00

100	pH 8.2	8.0
	O2 ppm 9.2	8.5
	Cond. 586	602
	Temp(C) 19.5	20.5 21.0
50	pH 8.2	8.1
	O2 ppm 9.3	8.6
	Cond. 440	449
	Temp(C) 19.5	20.5 21.0
25	pH 8.2	8.1
	O2 ppm 9.3	8.6
	Cond. 371	376
	Temp(C) 19.5	20.5 21.0
13	pH 8.2	8.2
	O2 ppm 9.3	8.6
	Cond. 335	340
	Temp(C) 19.5	20.5 21.0
6	pH 8.1	8.1
	O2 ppm 9.4	8.6
	Cond. 308	319
	Temp(C) 19.5	20.5 21.0
Control	pH 8.2	8.2
	O2 ppm 9.4	8.7
	Cond. 291	295
	Temp(C) 19.5	20.5 21.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890323

TEST CONDITIONS

Company : Stelco Steel Hilton Works

Region : Hamilton, ONT

Industry : West Central

Control point : Iron and Steel

Laboratory : East Side Filter, (601)

Sampling Method : BAR

Sampled By : Grab

Date Collected : P. Peidl

Received : 12/05/89

Tested : 12/05/89 at: 1045

Type of Bioassay : STATIC

(Daphnia magna Acute Lethality Toxicity

Test Protocol. OME, 1988)

Test Animal : D. magna

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY
%	00:00 24:00 48:00	%
100	0 1 1	8
50	0 0 0	0
25	0 0 0	0
13	0 0 0	0
6	0 0 0	0
Control	0 0 0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100%

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890323

TEST CONC.	ELAPSED TIME
%	00:00 24:00 48:00

100	pH 7.6	8.0
	O2 ppm 8.5	8.8
	Cond. 600	608
	Temp(C) 19.0	19.0 19.5
50	pH 8.0	8.2
	O2 ppm 8.7	9.0
	Cond. 446	438
	Temp(C) 19.0	19.0 19.5
25	pH 8.2	8.2
	O2 ppm 8.8	9.3
	Cond. 373	375
	Temp(C) 19.0	19.0 19.5
13	pH 8.3	8.3
	O2 ppm 8.8	9.8
	Cond. 335	339
	Temp(C) 19.0	19.0 19.5
6	pH 8.3	8.3
	O2 ppm 8.9	9.9
	Cond. 310	318
	Temp(C) 19.0	19.0 19.5
Control	pH 8.4	8.2
	O2 ppm 8.9	10.3
	Cond. 293	301
	Temp(C) 19.0	19.0 19.5

TOXICITY TEST REPORT Sample: 03890319

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel

Control point : East Side Filter, (601)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 12/05/89
Received : 12/05/89
Tested : 12/06/89 at: 1055

Type of Bicassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890319

TEST CONC. :
% : 00:00 24:00 48:00

100	pH 7.7	8.0
	O2 ppm 8.7	8.6
	Cond. 593	605
	Temp(C) 19.0	19.0
50	pH 8.1	8.2
	O2 ppm 8.7	8.6
	Cond. 447	450
	Temp(C) 19.0	19.0
25	pH 8.2	8.2
	O2 ppm 8.7	8.6
	Cond. 367	376
	Temp(C) 19.0	19.0
13	pH 8.3	8.3
	O2 ppm 8.7	9.0
	Cond. 333	339
	Temp(C) 19.0	19.0
6	pH 8.3	8.2
	O2 ppm 8.8	9.0
	Cond. 316	307
	Temp(C) 19.0	19.0
Control	pH 8.4	8.2
	O2 ppm 8.9	8.9
	Cond. 293	299
	Temp(C) 19.0	19.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT

Sample: 039000027

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(9500006)Region : West Central
Industry : Iron and Steel

Control point : East Side Filter, (601)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 01/16/90
Received : 01/16/90
Tested : 01/18/90 at: 1730Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0 2	16
6	0	0 0	0
Control	0	0 0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 039000027

TEST CONC. :
E L A P S E D T I M E :
00:00 24:00 48:00

100	pH	7.6	7.9
	O2 ppm	8.0	8.5
	Cond.	653	644
	Temp(C)	20.5	20.0
50	pH	7.9	8.1
	O2 ppm	8.4	8.6
	Cond.	477	471
	Temp(C)	20.5	20.0
25	pH	8.1	8.2
	O2 ppm	8.6	8.7
	Cond.	385	382
	Temp(C)	20.5	20.0
13	pH	8.2	8.3
	O2 ppm	8.6	8.7
	Cond.	341	340
	Temp(C)	20.5	20.0
6	pH	8.2	8.3
	O2 ppm	8.7	8.6
	Cond.	315	315
	Temp(C)	20.5	20.0
Control	pH	8.3	8.3
	O2 ppm	8.8	8.4
	Cond.	297	293
	Temp(C)	20.5	20.0

TOXICITY TEST REPORT Sample: 039000028

TEST CONDITIONSCompany : Stelco Steel Hilton Works
Hamilton, ONT
(950006)Region : West Central
Industry : Iron and Steel

Control point : East Side Filter, (601)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 01/16/90
Received : 01/16/90
Tested : 01/18/90 at: 1730Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol, OME, 1988)Test Animal : D. magna
Weight(gm) :
Length(mm) :MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	16
25	0	0	0
13	0	0	0
6	0	0	16
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 039000028

TEST CONC. %	E L A P S E D T I M E	
	00:00	24:00 48:00

100	pH 7.9	8.0
	O2 ppm 8.9	8.6
	Cond. 652	643
	Temp(C) 20.5	20.0
50	pH 8.0	8.1
	O2 ppm 8.8	8.6
	Cond. 473	466
	Temp(C) 20.5	20.0
25	pH 8.1	8.2
	O2 ppm 8.7	8.6
	Cond. 384	379
	Temp(C) 20.5	20.0
13	pH 8.2	8.3
	O2 ppm 8.8	8.6
	Cond. 342	337
	Temp(C) 20.5	20.0
6	pH 8.2	8.3
	O2 ppm 8.8	8.5
	Cond. 316	314
	Temp(C) 20.5	20.0
Control	pH 8.3	8.3
	O2 ppm 8.8	8.5
	Cond. 297	293
	Temp(C) 20.5	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900086

TEST CONDITIONS

Company : Stelco Steel Hilton Works

Region : Hamilton, ONT

Industry : West Central

Control point : East Side Filter, (601)

Laboratory : BAR

Sampling Method : Grab

Sampled By : P. Peidl

Date Collected : 02/06/90

Received : 02/06/90

Tested : 02/07/90 at: 940

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	1	8
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900086

TEST CONC.	ELAPSED TIME	
%	00:00	24:00 48:00

100	pH 7.8	8.1
	O2 ppm 8.0	8.2
	Cond. 715	709
	Temp(C) 20.0	20.0 20.0
50	pH 8.1	8.2
	O2 ppm 8.2	8.5
	Cond. 510	505
	Temp(C) 20.0	20.0 20.0
25	pH 8.3	8.3
	O2 ppm 8.3	8.6
	Cond. 405	402
	Temp(C) 20.0	20.0 20.0
13	pH 8.4	8.4
	O2 ppm 8.3	8.7
	Cond. 356	352
	Temp(C) 20.0	20.0 20.0
6	pH 8.4	8.4
	O2 ppm 8.4	8.7
	Cond. 326	321
	Temp(C) 20.0	20.0 20.0
Control	pH 8.5	8.4
	O2 ppm 8.7	8.7
	Cond. 300	301
	Temp(C) 20.0	20.0 20.0

TOXICITY TEST REPORT Sample: 03900085

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : East Side Filter, (601)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 02/06/90
Received : 02/06/90
Tested : 02/07/90 at: 1040

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	1	2
50	0	0	0
25	0	0	0
13	0	0	0
6	0	1	1
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900085

TEST
CONC.
% E L A P S E D T I M E
00:00 24:00 48:00

100	pH	7.8	8.1
	O2 ppm	8.3	8.3
	Cond.	703	709
	Temp(C)	20.0	20.0
50	pH	8.2	8.2
	O2 ppm	8.4	8.5
	Cond.	505	507
	Temp(C)	20.0	20.0
25	pH	8.3	8.3
	O2 ppm	8.4	8.6
	Cond.	402	402
	Temp(C)	20.0	20.0
13	pH	8.4	8.4
	O2 ppm	8.4	8.6
	Cond.	353	353
	Temp(C)	20.0	20.0
6	pH	8.4	8.4
	O2 ppm	8.4	8.6
	Cond.	323	326
	Temp(C)	20.0	20.0
Control	pH	8.5	8.4
	O2 ppm	8.7	8.6
	Cond.	300	301
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890268

TEST CONDITIONS

Company : Stelco Steel Hilton Works

Region : Hamilton, ONT

Industry : West Central

Control point : #1 60 inch Sewer, (602)

Laboratory : BAR

Sampling Method : Grab

Sampled By : P. Peidl

Date Collected : 11/14/89

Received : 11/14/89

Tested : 11/18/89 at: 1600

Type of Bioassay

: STATIC (Daphnia magna Acute Lethality Toxicity Test Protocol. OME, 1988)

Test Animal : D. magna

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	2	2	16
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100%

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890268

TEST CONC.	E L A P S E D T I M E			
%	00:00	04:00	24:00	48:00

Control	pH	7.9	8.3
	O2 ppm	8.9	9.7
	Cond.	303	295
	Temp(C)	20.0	20.0
6	pH	8.1	8.3
	O2 ppm	9.0	9.3
	Cond.	333	323
	Temp(C)	20.0	20.0
13	pH	8.1	8.3
	O2 ppm	9.0	9.2
	Cond.	354	341
	Temp(C)	20.0	20.0
25	pH	7.9	8.2
	O2 ppm	8.9	9.1
	Cond.	392	378
	Temp(C)	20.0	20.0
50	pH	7.6	8.1
	O2 ppm	9.1	9.0
	Cond.	472	453
	Temp(C)	20.0	20.0
100	pH	7.0	7.8
	O2 ppm	9.2	8.8
	Cond.	627	601
	Temp(C)	20.0	20.0

TOXICITY TEST REPORT Sample: 03890318

TEST CONDITIONSCompany : Stelco Steel Hilton Works
Hamilton, ONT
(950006)Region : West Central
Industry : Iron and Steel

Control point : #1 60 inch Sewer, (602)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 12/05/89
Received : 12/05/89
Tested : 12/06/89 at: 1025Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)Test Animal : D. magna
Weight(gm) :
Length(mm) :MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	04:00	24:00 48:00	%
100	0	11	12	100
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : 70.7 %

95% fid. limits : 50.0 - 100.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03890318

TEST CONC. %
E L A P S E D T I M E
00:00 04:00 24:00 48:00

100	pH O2 ppm Cond. Temp(C)	3.9 9.3 710 19.0	4.0 9.3 677 19.5
50	pH O2 ppm Cond. Temp(C)	7.1 8.9 485 19.0	7.6 8.8 497 19.5
25	pH O2 ppm Cond. Temp(C)	7.6 8.8 394 19.0	7.9 9.0 389 19.5
13	pH O2 ppm Cond. Temp(C)	7.9 8.8 350 19.0	8.1 9.2 352 19.5
6	pH O2 ppm Cond. Temp(C)	8.2 8.7 320 19.0	8.2 9.3 324 19.5
Control	pH O2 ppm Cond. Temp(C)	8.4 8.9 293 19.0	8.2 9.4 299 19.5

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 039000067

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)

Region : West Central
Industry : Iron and Steel

Control point : #1 60 inch Sewer, (602)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 01/24/90
Received : 01/24/90
Tested : 01/25/90 at: 1055

Type of Bioassay : STATIC

(Daphnia magna Acute Lethality Toxicity
Test Protocol. ONE, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	1	1	8
25	0	0	0	0
13	0	1	1	8
6	0	0	1	8
Control	0	0	1	8

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 039000067

TEST CONC. %
ELAPSED TIME
00:00 24:00 48:00

100	pH O2 ppm Cond. Temp(C)	6.0 8.9 709 20.0	6.8 8.2 699 20.0
50	pH O2 ppm Cond. Temp(C)	7.1 8.8 504 20.0	7.8 8.2 502 20.0
25	pH O2 ppm Cond. Temp(C)	7.6 8.7 404 20.0	8.2 8.3 403 20.0
13	pH O2 ppm Cond. Temp(C)	8.0 8.7 355 20.0	8.3 8.3 354 20.0
6	pH O2 ppm Cond. Temp(C)	8.3 8.7 325 20.0	8.4 8.4 327 20.0
Control	pH O2 ppm Cond. Temp(C)	8.5 8.7 299 20.0	8.4 8.4 299 20.0

TOXICITY TEST REPORT Sample: 03900091

TEST CONDITIONS

Company : Stelco Steel Hilton Works

Hamilton, ONT
(950006)

Region : West Central

Industry : Iron and Steel

Control point : #1 60 inch Sewer, (602)

Laboratory : BAR

Sampling Method : Grab

Sampled By : P. Peidl

Date Collected : 02/06/90

Received : 02/06/90

Tested : 02/07/93 at: 1025

Type of Bioassay

: STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal

Weight(gm)

Length(mm)

: D. magna

:

:

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		- TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	12	100
50	0	4	41
25	0	0	8
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : 49.7 %

95% fid. limits : 36.9 - 66.9 %

Comments : Lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900091

TEST CONC. %	E L A P S E D T I M E	
	00:00	24:00 48:00

100	pH	3.0	2.9
	O2 ppm	8.8	8.9
	Cond.	1185	1178
	Temp(C)	20.0	20.0
50	pH	6.6	6.9
	O2 ppm	8.7	8.6
	Cond.	555	549
	Temp(C)	20.0	20.0
25	pH	7.2	7.7
	O2 ppm	8.6	8.6
	Cond.	428	426
	Temp(C)	20.0	20.0
13	pH	7.7	8.1
	O2 ppm	8.5	8.7
	Cond.	365	365
	Temp(C)	20.0	20.0
6	pH	8.0	8.3
	O2 ppm	8.6	8.8
	Cond.	333	335
	Temp(C)	20.0	20.0
Control	pH	8.5	8.4
	O2 ppm	8.7	8.7
	Cond.	300	300
	Temp(C)	20.0	20.0

MISA Daphnia

SLOPE of Mortality Curve : Trimmed Spearman-Kärber
 LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900176

TEST CONDITIONS

Company : Stelco Steel Hilton Works
 Hamilton, ONT
 (950006)
 Region : West Central
 Industry : Iron and Steel
 Control point : #1 60 inch Sewer, (602)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : P. Peidl
 Date Collected : 03/06/90
 Received : 03/06/90
 Tested : 03/08/90 at: 1015

Type of Bioassay : STATIC
 (Daphnia magna Acute Lethality Toxicity
 Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	12 12	100
50	0	3 4	33
25	0	0 1	8
13	0	0 1	8
6	0	0 1	8
Control	0	0 0	0

48 Hour LC50 : 56.1 %
 95% fid. limits : 44.0 - 71.3 %
 Comments : Lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900176

TEST CONC. %
 ELAPSED TIME
 00:00 24:00 48:00

100	pH 2.8 O2 ppm 9.0 Cond. 1428 Temp(C) 19.5	2.8 8.7 9.0 1398 19.5 19.5
50	pH 6.3 O2 ppm 9.0 Cond. 580 Temp(C) 19.5	6.3 7.1 9.0 8.7 580 587 19.5 20.0
25	pH 7.0 O2 ppm 9.0 Cond. 442 Temp(C) 19.5	7.0 7.8 9.0 8.7 442 446 19.5 20.0
13	pH 7.5 O2 ppm 8.9 Cond. 374 Temp(C) 19.5	7.5 8.1 8.9 8.7 374 377 19.5 20.0
6	pH 7.9 O2 ppm 8.9 Cond. 337 Temp(C) 19.5	7.9 8.3 8.9 8.8 337 336 19.5 20.0
Control	pH 8.5 O2 ppm 300 Cond. 300 Temp(C) 19.5	8.5 8.4 8.9 8.9 300 298 19.5 20.0

TOXICITY TEST REPORT Sample: 02900050

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : #1 60 inch Sewer, (602)
Laboratory : MOE
Sampling Method : Grab
Sampled By : B. Trach
Date Collected : 03/26/90
Received : 03/28/90
Tested : 03/28/90 at: 1200

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol, OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	24:00 48:00	%
100	0	0	0	0	0	0
60	0	0	0	0	0	0
30	0	0	0	0	0	0
15	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : High DO

TOXICITY TEST PARAMETERS

Sample Number: 02900050

TEST CONC. %	E L A P S E D T I M E				
	00:00	01:00	02:00	04:00	24:00 48:00
100	pH	6.6			7.5
	O2 ppm	11.1			7.3
	Cond.	705			650
	Temp(C)	20.0			20.0
60	pH	7.0			7.5
	O2 ppm	10.1			7.4
	Cond.	545			525
	Temp(C)	20.0			20.0
30	pH	7.4			7.7
	O2 ppm	9.6			8.3
	Cond.	430			420
	Temp(C)	20.0			20.0
15	pH	7.6			7.8
	O2 ppm	9.4			8.4
	Cond.	375			370
	Temp(C)	20.0			20.0
5	pH	7.7			7.9
	O2 ppm	9.2			8.3
	Cond.	335			330
	Temp(C)	20.0			20.0
Control	pH	7.8			7.8
	O2 ppm	9.2			8.5
	Cond.	315			315
	Temp(C)	20.0			20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900268

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)

Region : West Central
Industry : Iron and Steel

Control point : #1 60 inch Sewer, (602)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 04/03/90
Received : 04/03/90
Tested : 04/04/90 at: 1235

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. ONE, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	16
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900268

TEST CONC.	E L A P S E D T I M E	
%	00:00	24:00 48:00
100	pH 6.6 O2 ppm 9.2 Cond. 809 Temp(C) 19.5	6.8 8.5 771 19.0 19.5
50	pH 7.3 O2 ppm 8.8 Cond. 553 Temp(C) 19.5	7.8 8.5 531 19.0 19.5
25	pH 7.7 O2 ppm 8.8 Cond. 427 Temp(C) 19.5	8.1 8.7 410 19.0 19.5
13	pH 8.1 O2 ppm 8.8 Cond. 369 Temp(C) 19.5	8.3 8.7 354 19.0 19.5
6	pH 8.2 O2 ppm 8.8 Cond. 336 Temp(C) 19.5	8.3 8.6 319 19.0 19.5
Control	pH 8.4 O2 ppm 8.9 Cond. 302 Temp(C) 19.5	8.4 8.9 292 19.0 19.5

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : #1 60 inch Sewer, (602)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Johnston
Date Collected : 05/01/90
Received : 05/01/90
Tested : 05/02/90 at: 1055

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	ELAPSED TIME	TOTAL MORTALITY
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

Sample Number: 03900344

TEST CONC. %
ELAPSED TIME
00:00 24:00 48:00

100	pH 6.6 O2 ppm 9.0 Cond. 808 Temp(C) 20.5	7.0 9.2 811 19.5
50	pH 7.4 O2 ppm 9.0 Cond. 556 Temp(C) 20.5	7.1 8.8 557 19.5
25	pH 7.7 O2 ppm 8.9 Cond. 432 Temp(C) 20.5	7.7 9.0 432 19.5
13	pH 8.0 O2 ppm 8.9 Cond. 370 Temp(C) 20.5	8.1 8.9 369 19.5
6	pH 8.2 O2 ppm 8.9 Cond. 334 Temp(C) 20.5	8.2 9.0 333 19.5
Control	pH 8.4 O2 ppm 9.0 Cond. 299 Temp(C) 20.5	8.3 9.2 301 19.5

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900442

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : #1 60 inch Sewer, (602)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 06/05/90
Received : 06/05/90
Tested : 06/06/90 at: 1145

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	2	2	16
50	0	2	2	16
25	0	0	1	8
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 > 100

TOXICITY TEST PARAMETERS

Sample Number: 03900442

TEST CONC. %
ELAPSED TIME
00:00 24:00 48:00

100	pH 8.0 O2 ppm 9.0 Cond. 723 Temp(C) 20.5	20.0	20.0	19.5
50	pH 8.2 O2 ppm 9.1 Cond. 516 Temp(C) 20.5	8.1 8.8 512 19.5		
25	pH 8.2 O2 ppm 9.1 Cond. 407 Temp(C) 20.5	8.1 8.8 405 19.5		
13	pH 8.3 O2 ppm 9.1 Cond. 355 Temp(C) 20.5	8.1 8.9 355 19.5		
6	pH 8.3 O2 ppm 9.1 Cond. 328 Temp(C) 20.5	8.1 8.9 325 19.5		
Control	pH 8.3 O2 ppm 9.1 Cond. 296 Temp(C) 20.5	8.1 8.9 297 19.5		

TOXICITY TEST REPORT Sample: 03900551

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : #1 60 inch Sewer, (602)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 07/03/90
Received : 07/03/90
Tested : 07/04/90 at: 1030
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0 0 1	8
50	0	0 0 0	0
25	0	0 0 0	0
13	0	0 0 0	0
6	0	0 0 0	0
Control	0	0 0 0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 > 100

TOXICITY TEST PARAMETERS

Sample Number: 03900551

TEST CONC.	E L A P S E D T I M E	
%	00:00	24:00 48:00
100	pH 8.1 O2 ppm 9.2 Cond. 664 Temp(C) 20.0	8.0 8.3 663 19.5
50	pH 8.3 O2 ppm 9.2 Cond. 486 Temp(C) 20.0	8.1 8.5 483 19.5
25	pH 8.3 O2 ppm 9.2 Cond. 394 Temp(C) 20.0	8.2 8.6 392 19.5
13	pH 8.4 O2 ppm 9.2 Cond. 349 Temp(C) 20.0	8.3 8.6 347 19.5
6	pH 8.4 O2 ppm 9.2 Cond. 320 Temp(C) 20.0	8.3 8.7 321 19.5
Control	pH 8.5 O2 ppm 9.2 Cond. 297 Temp(C) 20.0	8.3 8.8 297 19.5

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900683

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : #1 60 inch Sewer, (602)
Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Hibberd
Date Collected : 08/14/90
Received : 08/14/90
Tested : 08/15/90 at: 1515

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900683

TEST
CONC.
%

E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.1 O2 ppm 9.0 Cond. 595 Temp(C) 19.5	20.5	21.0	8.0 8.2 601
50	pH 8.2 O2 ppm 9.2 Cond. 443 Temp(C) 19.5	20.5	21.0	8.1 8.4 450
25	pH 8.2 O2 ppm 9.2 Cond. 373 Temp(C) 19.5	20.5	21.0	8.1 8.5 376
13	pH 8.1 O2 ppm 9.2 Cond. 336 Temp(C) 19.5	20.5	21.0	8.2 8.6 340
6	pH 8.2 O2 ppm 9.3 Cond. 305 Temp(C) 19.5	20.5	21.0	8.2 8.6 320
Control	pH 8.3 O2 ppm 9.3 Cond. 294 Temp(C) 19.5	20.5	21.0	8.1 8.8 296

TOXICITY TEST REPORT Sample: 03890266

TEST CONDITIONS

Company : Stelco Steel Hilton Works

Hamilton, ONT
(950006)

Region : West Central

Industry : Iron and Steel

Control point : #2 Rod Mill, (1100)

Laboratory :

Sampling Method : BAR

Sampled By : P. Peidl

Date Collected :

Received : 11/14/89

Tested : 11/18/89 at: 1600

Type of Bioassay :

: STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal :

Weight(gm) : D. magna

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	2	2	16
25	0	0	0	1	8
50	0	0	0	1	8
100	0	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100%

TOXICITY TEST PARAMETERS

Sample Number: 03890266

TEST CONC. %	E L A P S E D T I M E			
	00:00	04:00	24:00	48:00

Control	pH	7.9	8.3
	O2 ppm	8.9	9.6
	Cond.	303	301
	Temp.	20.0	19.0
		20.0	20.0
6	pH	8.0	8.3
	O2 ppm	8.9	9.1
	Cond.	301	303
	Temp(C)	20.0	19.0
		20.0	20.0
13	pH	8.0	8.3
	O2 ppm	8.9	9.0
	Cond.	307	307
	Temp(C)	20.0	19.0
		20.0	20.0
25	pH	8.0	8.3
	O2 ppm	8.9	9.0
	Cond.	310	313
	Temp(C)	20.0	19.0
		20.0	20.0
50	pH	8.0	8.3
	O2 ppm	9.3	8.9
	Cond.	326	325
	Temp(C)	20.0	19.0
		20.0	20.0
100	pH	8.1	8.2
	O2 ppm	9.8	8.9
	Cond.	355	343
	Temp(C)	20.0	19.0
		20.0	20.0

MISA Daphnia

SLOPE of Mortality Curve : 3.2
 LC50 Calculated By : Probit

TOXICITY TEST REPORT Sample: 03890321

TEST CONDITIONS

Company : Stelco Steel Hilton Works
 Hamilton, ONT
 (950006)

Region : West Central
 Industry : Iron and Steel

Control point : #2 Rod Mill, (1100)

Laboratory : BAR/Road
 Sampling Method : Grab
 Sampled By : P. Peidl
 Date Collected : 12/05/89
 Received : 12/05/89
 Tested : 12/06/89 at: 1200

Type of Bioassay : STATIC
 (Daphnia magna Acute Lethality Toxicity
 Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	7	58
50	0	2	25
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : 84.6 %

95% fid. limits : 59.3 - 120.5 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03890321

TEST CONC. %
 ELAPSED TIME
 00:00 24:00 48:00

100	pH 7.9 O2 ppm 9.6 Cond. 345 Temp(C) 19.0	8.1 9.3 343 19.5
50	pH 8.1 O2 ppm 9.1 Cond. 325 Temp(C) 19.0	8.2 9.3 321 19.5
25	pH 8.3 O2 ppm 9.0 Cond. 306 Temp(C) 19.0	8.2 9.4 311 19.5
13	pH 8.3 O2 ppm 8.9 Cond. 300 Temp(C) 19.0	8.2 9.5 311 19.5
6	pH 8.4 O2 ppm 8.9 Cond. 297 Temp(C) 19.0	8.2 9.3 305 19.5
Control	pH 8.4 O2 ppm 8.9 Cond. 293 Temp(C) 19.0	8.3 8.8 282 19.5

TOXICITY TEST REPORT Sample: 03900030

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(9500006)
Region : West Central
Industry : Iron and Steel

Control point : #2 Rod Mill, (1100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 01/16/90
Received : 01/16/90
Tested : 01/16/90 at: 1710

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00 24:00 48:00		%
100	0	10	83
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : 78.0 %

95% fid. limits : 65.1 - 93.4 %

Comments : Lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900030

TEST CONC. % E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.0	8.1	8.9
	02 ppm Cond. 345		343
	Temp(C) 20.5	19.0	19.0
50	pH 8.1	8.2	8.8
	02 ppm Cond. 320		317
	Temp(C) 20.5	19.0	19.0
25	pH 8.2	8.3	8.3
	02 ppm Cond. 308		305
	Temp(C) 20.5	19.0	19.0
13	pH 8.3	8.3	8.3
	02 ppm Cond. 302		299
	Temp(C) 20.5	19.0	19.0
6	pH 8.3	8.3	8.3
	02 ppm Cond. 300		296
	Temp(C) 20.5	19.0	19.0
Control	pH 8.3	8.3	8.3
	02 ppm Cond. 297		289
	Temp(C) 20.5	19.0	19.0

MISA Daphnia

SLOPE of Mortality Curve : 4.3
LC50 Calculated By : Probit

TOXICITY TEST REPORT Sample: 039000089

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : #2 Rod Mill, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 02/06/90
Received : 02/06/90
Tested : 02/07/90 at: 1000

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	12	12	100
50	0	8	8	66
25	0	0	1	8
13	0	0	0	0
6	0	0	0	0
Control	0	0	1	8

48 Hour LC50 : 41.2 %
95% fid. limits : 31.5 - 53.8 %
Comments : Lethal

TOXICITY TEST PARAMETERS

Sample Number: 039000089
TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.0 O2 ppm 8.2 Cond. 8.8 Temp(C) 339 20.0 20.0	8.0 8.8 344 20.0	8.2 8.8 344 20.0
50	pH 8.3 O2 ppm 8.8 Cond. 319 Temp(C) 20.0	8.3 8.8 319 20.0	8.3 8.7 320 20.0
25	pH 8.4 O2 ppm 8.8 Cond. 309 Temp(C) 20.0	8.4 8.8 309 20.0	8.4 8.7 309 20.0
13	pH 8.5 O2 ppm 8.7 Cond. 306 Temp(C) 20.0	8.5 8.7 306 20.0	8.4 8.5 304 20.0
6	pH 8.5 O2 ppm 8.6 Cond. 304 Temp(C) 20.0	8.5 8.6 304 20.0	8.4 8.5 309 20.0
Control	pH 8.5 O2 ppm 8.7 Cond. 300 Temp(C) 20.0	8.5 8.7 300 20.0	8.4 8.8 300 20.0

TOXICITY TEST REPORT Sample: 03900179

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)Region : West Central
Industry : Iron and Steel

Control point : #2 Rod Mill, (1100)

Laboratory : BAR

Sampling Method : Grab

Sampled By : P. Peidl

Date Collected : 03/06/90

Received : 03/06/90 at: 1010

Tested : 03/08/90

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	12	12	100
50	0	2	3	25
25	0	0	1	8
13	0	0	0	0
6	0	0	0	0
Control	0	0	1	8

48 Hour LC50 : 54.4 %

95% fid. limits : 42.0 - 70.6 %

Comments : Lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900179

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.1 7.7 O2 ppm 9.0 8.9 Cond. 363 377 Temp(C) 19.5 19.5
50	pH 8.2 8.3 O2 ppm 8.9 8.8 Cond. 330 333 Temp(C) 19.5 19.5 20.0
25	pH 8.4 8.4 O2 ppm 9.0 8.8 Cond. 314 317 Temp(C) 19.5 19.5 20.0
13	pH 8.4 8.4 O2 ppm 8.9 8.9 Cond. 307 309 Temp(C) 19.5 19.5 20.0
6	pH 8.4 8.4 O2 ppm 8.8 8.9 Cond. 303 306 Temp(C) 19.5 19.5 20.0
Control	pH 8.5 8.4 O2 ppm 8.9 8.8 Cond. 300 296 Temp(C) 19.5 19.5 20.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 02900055

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)

Region : West Central
Industry : Iron and Steel

Control point : #2 Rod Mill, (1100)

Laboratory : MOE
Sampling Method : Grab
Sampled By : Trach
Date Collected : 03/27/90
Received : 03/29/90
Tested : 03/30/90 at: 1100

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	24:00	48:00	%
100	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Many floaters at 60% and 100%.

TOXICITY TEST PARAMETERS

Sample Number: 02900055

TEST CONC. %
E L A P S E D T I M E
00:00 01:00 02:00 04:00 24:00 48:00

100	pH 7.6 O2 ppm 10.6 Cond. 318 Temp(C) 20.0	7.9 7.4 314 20.0
60	pH 7.7 O2 ppm 9.8 Cond. 319 Temp(C) 20.0	7.9 7.5 318 20.0
30	pH 7.8 O2 ppm 9.4 Cond. 318 Temp(C) 20.0	7.8 7.3 318 20.0
15	pH 7.8 O2 ppm 9.2 Cond. 318 Temp(C) 20.0	7.8 7.2 318 20.0
5	pH 7.8 O2 ppm 9.1 Cond. 319 Temp(C) 20.0	7.7 8.1 320 20.0
Control	pH 7.8 O2 ppm 9.1 Cond. 316 Temp(C) 20.0	7.8 8.2 317 20.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900269

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)

Region : West Central
Industry : Iron and Steel

Control point : #2 Rod Mill, (1100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 04/03/90
Received : 04/03/90
Tested : 04/04/90 at: 1245

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. ONE, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	4	5
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900269

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.1	8.3	8.3
	O2 ppm 9.8	9.1	9.1
	Cond. 352	342	342
	Temp(C) 19.5	19.0	19.5
50	pH 8.3	8.4	8.4
	O2 ppm 9.2	9.0	9.0
	Cond. 328	317	317
	Temp(C) 19.5	19.0	19.5
25	pH 8.4	8.4	8.4
	O2 ppm 8.9	8.9	8.9
	Cond. 318	305	305
	Temp(C) 19.5	19.0	19.5
13	pH 8.4	8.4	8.4
	O2 ppm 8.9	8.9	8.9
	Cond. 311	299	299
	Temp(C) 19.5	19.0	19.5
6	pH 8.3	8.4	8.4
	O2 ppm 8.8	8.9	8.9
	Cond. 310	297	297
	Temp(C) 19.5	19.0	19.5
Control	pH 8.4	8.5	8.5
	O2 ppm 8.9	8.9	8.9
	Cond. 302	293	293
	Temp(C) 19.5	19.0	19.5

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900343

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)

Region : West Central
Industry : Iron and Steel

Control point : #2 Rod Mill, (1100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Johnston
Date Collected : 05/01/90
Received : 05/01/90
Tested : 05/02/90 at: 1040

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	1	1	8

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900343

TEST CONC. % E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.0	8.2	8.2
	O2 ppm 9.1	9.1	8.9
	Cond. 368	368	366
	Temp(C) 20.5	20.0	19.5
50	pH 8.2	8.2	8.2
	O2 ppm 9.1	9.1	8.8
	Cond. 336	336	334
	Temp(C) 20.5	20.0	19.5
25	pH 8.2	8.2	8.3
	O2 ppm 9.0	9.0	8.8
	Cond. 318	318	316
	Temp(C) 20.5	20.0	19.5
13	pH 8.4	8.3	8.3
	O2 ppm 9.0	9.0	8.9
	Cond. 311	311	307
	Temp(C) 20.5	20.0	19.5
6	pH 8.4	8.3	8.3
	O2 ppm 9.0	9.0	8.8
	Cond. 306	306	304
	Temp(C) 20.5	20.0	19.5
Control	pH 8.4	8.4	8.4
	O2 ppm 9.0	9.0	8.8
	Cond. 299	299	302
	Temp(C) 20.5	20.0	19.5

TOXICITY TEST REPORT Sample: 03900443

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : #2 Rod Mill, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 06/05/90
Received : 06/05/90
Tested : 06/06/90 at: 1150

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00 24:00	48:00	%
100	0	2	41
50	0	0	0
25	0	0	1
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 > 100

TOXICITY TEST PARAMETERS

Sample Number: 03900443

TEST CONC.	E L A P S E D T I M E	
%	00:00 24:00	48:00

100	pH 8.1 O2 ppm 9.2 Cond. 347 Temp(C) 20.5	7.9 8.9 352 20.0	19.5
50	pH 8.2 O2 ppm 9.2 Cond. 322 Temp(C) 20.5	8.0 8.9 326 20.0	19.5
25	pH 8.2 O2 ppm 9.1 Cond. 313 Temp(C) 20.5	8.1 8.9 313 20.0	19.5
13	pH 8.3 O2 ppm 9.1 Cond. 304 Temp(C) 20.5	8.1 8.9 307 20.0	19.5
6	pH 8.3 O2 ppm 9.1 Cond. 302 Temp(C) 20.5	8.1 8.9 304 20.0	19.5
Control	pH 8.3 O2 ppm 9.1 Cond. 296 Temp(C) 20.5	8.1 9.0 297 20.0	19.5

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900550

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)

Region : West Central
Industry : Iron and Steel

Control point : #2 Rod Mill, (1100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 07/03/90
Received : 07/03/90
Tested : 07/04/90 at: 1020

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	1	8

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900550

TEST CONC. %
ELAPSED TIME
00:00 24:00 48:00

100	pH	8.0	8.1
	O2 ppm	9.2	8.6
	Cond.	353	354
	Temp(C)	20.0	20.0
50	pH	8.3	8.2
	O2 ppm	9.2	8.7
	Cond.	328	327
	Temp(C)	20.0	20.0
25	pH	8.4	8.2
	O2 ppm	9.2	8.7
	Cond.	313	313
	Temp(C)	20.0	20.0
13	pH	8.4	8.2
	O2 ppm	9.2	8.7
	Cond.	308	307
	Temp(C)	20.0	20.0
6	pH	8.4	8.3
	O2 ppm	9.2	8.7
	Cond.	300	304
	Temp(C)	20.0	20.0
Control	pH	8.4	8.3
	O2 ppm	9.2	8.7
	Cond.	297	299
	Temp(C)	20.0	20.0

TOXICITY TEST REPORT Sample: 03890267

TEST CONDITIONSCompany : Stelco Steel Hilton Works
Hamilton, ONT
(950006)Region : West Central
Industry : Iron and Steel

Control point : 20 inch Mill, (1200)

Laboratory : BAR

Sampling Method : Grab

Sampled By : P. Peidl

Date Collected : 11/14/89

Received : 11/14/89

Tested : 11/18/89 at: 1600

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)Test Animal : D. magna
Weight(gm) :
Length(mm) :MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	2	16
100	0	0	0	2	16

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 > 100%

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890267

TEST CONC.	E L A P S E D T I M E			
%	00:00	04:00	24:00	48:00

Control	pH	7.9	8.9	8.3
	O2 ppm	8.9	9.7	9.7
	Cond.	303	295	295
	Temp(C)	20.0	20.0	19.0
			20.0	20.0
6	pH	8.1	8.4	8.4
	O2 ppm	8.9	9.7	9.7
	Cond.	316	316	316
	Temp(C)	20.0	20.0	19.0
			20.0	20.0
13	pH	8.1	8.3	8.3
	O2 ppm	8.9	9.9	9.9
	Cond.	336	343	343
	Temp(C)	20.0	20.0	19.0
			20.0	20.0
25	pH	8.0	8.3	8.3
	O2 ppm	9.0	9.8	9.8
	Cond.	369	376	376
	Temp(C)	20.0	20.0	19.0
			20.0	20.0
50	pH	7.9	8.2	8.2
	O2 ppm	9.0	9.5	9.5
	Cond.	444	451	451
	Temp(C)	20.0	20.0	19.0
			20.0	20.0
100	pH	7.8	8.1	8.1
	O2 ppm	9.1	9.1	9.1
	Cond.	592	595	595
	Temp(C)	20.0	20.0	19.0
			20.0	20.0

HISA Daphnia

SLOPE of Mortality Curve : Trimmed Spearman-Kärber
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03890322

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel

Control point : 20 inch Mill, (1200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 12/05/89
Received : 12/05/89
Tested : 12/06/89 at: 1210

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	75
50	0	0	58
25	0	0	66
13	0	0	50
6	0	0	0
Control	0	0	0

48 Hour LC50 : 11.9 %
95% fid. limits : 6.3 - 22.4 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03890322

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.7 O2 ppm 9.5 Cond. 565 Temp(C) 19.0	19.0	19.0	19.0	8.0 8.4 571 19.5
50	pH 7.9 O2 ppm 9.1 Cond. 457 Temp(C) 19.0	19.0	19.0	19.0	8.2 8.9 439 19.5
25	pH 8.2 O2 ppm 8.9 Cond. 369 Temp(C) 19.0	19.0	19.0	19.0	8.2 9.0 364 19.5
13	pH 8.3 O2 ppm 8.9 Cond. 335 Temp(C) 19.0	19.0	19.0	19.0	8.3 9.3 336 19.5
6	pH 8.3 O2 ppm 8.9 Cond. 315 Temp(C) 19.0	19.0	19.0	19.0	8.2 9.2 322 19.5
Control	pH 8.4 O2 ppm 8.9 Cond. 293 Temp(C) 19.0	19.0	19.0	19.0	8.3 8.3 289 19.5

TOXICITY TEST REPORT Sample: 03900029

TEST CONDITIONSCompany : Stelco Steel Hilton Works
Hamilton, ONT
(950006)Region : West Central
Industry : Iron and Steel

Control point : 20 inch Mill, (1200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 01/16/90
Received : 01/16/90
Tested : 01/18/90 at: 1730Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)Test Animal : D. magna
Weight(gm) :
Length(mm) :MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	41
50	0	0	33
25	0	0	8
13	0	0	0
6	0	0	8
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900029

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.9	8.0
	O2 ppm 10.6	8.9
	Cond. 578	563
	Temp(C) 20.5	20.0
50	pH 8.1	8.2
	O2 ppm 9.4	8.8
	Cond. 438	436
	Temp(C) 20.5	20.0
25	pH 8.2	8.3
	O2 ppm 9.0	8.8
	Cond. 369	365
	Temp(C) 20.5	20.0
13	pH 8.2	8.3
	O2 ppm 8.9	8.9
	Cond. 333	329
	Temp(C) 20.5	20.0
6	pH 8.3	8.3
	O2 ppm 8.8	9.0
	Cond. 310	311
	Temp(C) 20.5	20.0
Control	pH 8.3	8.3
	O2 ppm 8.8	8.4
	Cond. 297	292
	Temp(C) 20.5	20.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 039000090

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)

Region : West Central
Industry : Iron and Steel

Control point : 20 inch Mill, (1200)

Laboratory : BAR

Sampling Method : Grab

Sampled By : P. Peidl

Date Collected : 02/06/90

Received : 02/06/90

Tested : 02/07/90 at: 1010

Type of Bioassay : STATIC

(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal

Weight(gm)

Length(mm)

: D. magna

:

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	0	1
50	0	0	1
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 039000090

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.8 O2 ppm 8.8 Cond. 645 Temp(C) 20.0	8.1 8.8 648 20.0
50	pH 8.2 O2 ppm 8.8 Cond. 474 Temp(C) 20.0	8.2 8.9 473 20.0
25	pH 8.4 O2 ppm 8.7 Cond. 388 Temp(C) 20.0	8.4 8.9 387 20.0
13	pH 8.4 O2 ppm 8.6 Cond. 347 Temp(C) 20.0	8.4 8.8 344 20.0
6	pH 8.5 O2 ppm 8.6 Cond. 321 Temp(C) 20.0	8.4 8.8 317 20.0
Control	pH 8.5 O2 ppm 8.7 Cond. 300 Temp(C) 20.0	8.4 8.7 300 20.0

TOXICITY TEST REPORT Sample: 03900180

TEST CONDITIONSCompany : Stelco Steel Hilton Works
Hamilton, ONT
(950006)Region : West Central
Industry : Iron and Steel

Control point : 20 inch Mill, (1200)

Laboratory :

: BAR

Sampling Method :

: Grab

Sampled By : P. Peidl

Date Collected :

: 03/06/90

Received :

: 03/06/90

Tested :

: 03/07/90 at: 1050

Type of Bioassay :

: STATIC,
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal :

: D. magna

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 24:00 48:00	%
100	0 6 10	83
50	0 5 5	41
25	0 4 6	50
13	0 0 4	33
6	0 0 2	16
Control	0 0 0	0

48 Hour LC50 : 32.2 %

95% fid. limits : 16.5 - 81.4 %

Comments : Lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900180

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.0	8.2
	O2 ppm 9.2	8.7
	Cond. 716	712
	Temp(C) 20.0	19.5
50	pH 8.3	8.3
	O2 ppm 9.2	8.6
	Cond. 508	506
	Temp(C) 20.0	19.5
25	pH 8.4	8.4
	O2 ppm 9.2	8.7
	Cond. 406	405
	Temp(C) 20.0	19.5
13	pH 8.4	8.4
	O2 ppm 9.1	8.7
	Cond. 357	358
	Temp(C) 20.0	19.5
6	pH 8.4	8.4
	O2 ppm 9.0	8.7
	Cond. 327	324
	Temp(C) 20.0	19.5
Control	pH 8.6	8.4
	O2 ppm 8.9	8.7
	Cond. 298	308
	Temp(C) 20.0	19.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900270

TEST CONDITIONS

Company : Stelco Steel Hilton Works
 Hamilton, ONT
 (950006)
 Region : West Central
 Industry : Iron and Steel
 Control point : 20 inch Mill, (1200)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : P. Peidl
 Date Collected : 04/03/90
 Received : 04/03/90
 Tested : 04/04/90 at: 1240

Type of Bioassay : STATIC
 (Daphnia magna Acute Lethality Toxicity
 Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	4	6	50
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%
 95% fid. limits : 0.0 - 0.0 %
 Comments : LC50 >100

SLOPE of Mortality Curve :
 LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900270

TEST E L A P S E D T I M E
 CONC. % 00:00 24:00 48:00

100	pH 8.1	8.3	8.3
	O2 ppm 9.5	9.0	9.0
	Cond. 720	699	699
	Temp(C) 20.0	19.0	19.5
50	pH 8.3	8.4	8.4
	O2 ppm 9.1	8.9	8.9
	Cond. 518	498	498
	Temp(C) 20.0	19.0	19.5
25	pH 8.4	8.4	8.4
	O2 ppm 8.9	8.9	8.9
	Cond. 411	392	392
	Temp(C) 20.0	19.0	19.5
13	pH 8.4	8.4	8.4
	O2 ppm 8.9	8.9	8.9
	Cond. 360	345	345
	Temp(C) 20.0	19.0	19.5
6	pH 8.4	8.4	8.4
	O2 ppm 8.8	8.8	8.8
	Cond. 328	315	315
	Temp(C) 20.0	19.0	19.5
Control	pH 8.4	8.5	8.5
	O2 ppm 8.9	8.9	8.9
	Cond. 302	294	294
	Temp(C) 20.0	19.0	19.5

TOXICITY TEST REPORT Sample: 02900049

TEST CONDITIONSCompany : Stelco Steel Hilton Works
Hamilton, ONT
(950006)Region : West Central
Industry : Iron and Steel

Control point : #2 60 inch Sewer, (1300)

Laboratory : MOE
Sampling Method : Grab
Sampled By : B. Trach.
Date Collected : 03/26/90
Received : 03/28/90
Tested : 03/28/90 at: 1145Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)Test Animal : D. magna
Weight(gm) :
Length(mm) :MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	24:00 48:00	%
100	0	0	0	0	0	16
60	0	0	0	0	1	8
30	0	0	0	0	0	0
15	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 02900049

TEST CONC. %	E L A P S E D T I M E				
	00:00	01:00	02:00	04:00	24:00 48:00

100	pH	8.1			
	O2 ppm	9.9			8.0
	Cond.	624			8.2
	Temp(C)	20.0			584
60	pH	8.0			20.0
	O2 ppm	9.8			7.9
	Cond.	498			8.2
	Temp(C)	20.0			476
30	pH	8.0			20.0
	O2 ppm	9.4			7.9
	Cond.	405			8.3
	Temp(C)	20.0			398
15	pH	7.9			20.0
	O2 ppm	9.2			7.9
	Cond.	360			8.4
	Temp(C)	20.0			358
5	pH	7.9			20.0
	O2 ppm	9.1			7.9
	Cond.	333			8.4
	Temp(C)	20.0			330
Control	pH	7.8			20.0
	O2 ppm	9.2			7.9
	Cond.	315			8.4
	Temp(C)	20.0			312

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900267

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : #2 60 inch Sewer, (1300)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 04/03/90
Received : 04/03/90
Tested : 04/04/90 at: 1155

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900267

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.5 O2 ppm 9.2 Cond. 682 Temp(C) 19.5	8.3 8.7 656 19.0	8.3 8.7 656 19.5
50	pH 8.4 O2 ppm 8.9 Cond. 497 Temp(C) 19.5	8.3 8.9 474 19.0	8.3 8.9 474 19.5
25	pH 8.4 O2 ppm 8.9 Cond. 402 Temp(C) 19.5	8.4 8.9 383 19.0	8.4 9.0 383 19.5
13	pH 8.4 O2 ppm 8.8 Cond. 355 Temp(C) 19.5	8.4 8.8 339 19.0	8.4 9.0 339 19.5
6	pH 8.4 O2 ppm 8.8 Cond. 329 Temp(C) 19.5	8.4 8.8 313 19.0	8.4 9.0 313 19.5
Control	pH 8.4 O2 ppm 8.9 Cond. 302 Temp(C) 19.5	8.5 8.9 294 19.0	8.5 9.0 294 19.5

TOXICITY TEST REPORT Sample: 03900557

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : #2 60 inch Sewer, (1300)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 07/03/90
Received : 07/03/90
Tested : 07/04/90 at: 1550

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 24:00 48:00	%
100	0 0 1	8
50	0 0 2	16
25	0 0 0	0
13	0 0 0	0
6	0 0 1	8
Control	0 0 0	0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 > 100

TOXICITY TEST PARAMETERS

Sample Number: 03900557

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.1 O2 ppm 8.9 Cond. 630 Temp(C) 21.0	20.5	8.0 8.6 631 20.0
50	pH 8.2 O2 ppm 9.0 Cond. 472 Temp(C) 21.0	20.5	8.2 8.7 468 20.0
25	pH 8.3 O2 ppm 9.0 Cond. 387 Temp(C) 21.0	20.5	8.3 8.8 385 20.0
13	pH 8.3 O2 ppm 9.0 Cond. 342 Temp(C) 21.0	20.5	8.3 8.8 342 20.0
6	pH 8.2 O2 ppm 9.1 Cond. 318 Temp(C) 21.0	20.5	8.3 8.8 323 20.0
Control	pH 8.5 O2 ppm 9.2 Cond. 297 Temp(C) 21.0	20.5	8.3 8.9 304 20.0

HISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900684

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)

Region : West Central
Industry : Iron and Steel

Control point : #2 60 inch Sewer, (1300)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Hibberd
Date Collected : 08/14/90
Received : 08/14/90
Tested : 08/15/90 at: 1530

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900684

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.9 O2 ppm 8.8 Cond. 561 Temp(C) 20.5	8.2 8.4 570 21.0
50	pH 8.6 O2 ppm 8.9 Cond. 424 Temp(C) 20.5	8.2 8.5 432 21.0
25	pH 8.5 O2 ppm 9.0 Cond. 360 Temp(C) 20.5	8.2 8.5 364 21.0
13	pH 8.4 O2 ppm 9.0 Cond. 330 Temp(C) 20.5	8.2 8.5 334 21.0
6	pH 8.4 O2 ppm 9.0 Cond. 313 Temp(C) 20.5	8.2 8.6 315 21.0
Control	pH 8.3 O2 ppm 9.1 Cond. 294 Temp(C) 20.5	8.2 8.8 296 21.0

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03890264

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : East Side Filter Stage 1, (1900)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 11/14/89
Received : 11/14/89
Tested : 11/18/89 at: 1600

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	04:00	24:00 48:00	%
Control	0	0	1	8
6	0	0	0	0
13	0	0	0	0
25	0	0	0	0
50	0	0	0	0
100	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890264

TEST CONC. %
E L A P S E D T I M E
00:00 04:00 24:00 48:00

Control	pH	7.9	8.3
	O2 ppm	8.9	9.6
	Cond.	303	301
	Temp(C)	20.0	20.0
6	pH	8.2	8.4
	O2 ppm	9.0	9.2
	Cond.	314	318
	Temp(C)	20.0	20.0
13	pH	8.1	8.3
	O2 ppm	9.0	9.2
	Cond.	342	336
	Temp(C)	20.0	20.0
25	pH	8.1	8.3
	O2 ppm	9.2	9.0
	Cond.	371	375
	Temp(C)	20.0	20.0
50	pH	7.9	8.3
	O2 ppm	9.1	8.9
	Cond.	445	447
	Temp(C)	20.0	20.0
100	pH	7.8	8.2
	O2 ppm	9.1	8.8
	Cond.	595	588
	Temp(C)	20.0	20.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900177

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)

Region : West Central
Industry : Iron and Steel

Control point : East Side Filter Stage 1, (1900)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 03/06/90
Received : 03/06/90
Tested : 03/10/90 at: 1320

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900177

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.7 O2 ppm 8.8 Cond. 743 Temp(C) 19.5	20.0	8.0 8.6 743 20.0
50	pH 8.0 O2 ppm 8.8 Cond. 523 Temp(C) 19.5	20.0	8.2 8.7 523 20.0
25	pH 8.2 O2 ppm 8.8 Cond. 412 Temp(C) 19.5	20.0	8.2 8.7 415 20.0
13	pH 8.3 O2 ppm 8.8 Cond. 357 Temp(C) 19.5	20.0	8.3 8.7 363 20.0
6	pH 8.4 O2 ppm 8.8 Cond. 324 Temp(C) 19.5	20.0	8.3 8.7 328 20.0
Control	pH 8.5 O2 ppm 8.9 Cond. 302 Temp(C) 19.5	20.0	8.3 8.6 308 20.0

TOXICITY TEST REPORT Sample: 02900053

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : East Side Filter Stage 1, (1900)
Laboratory : MOE
Sampling Method : Grab
Sampled By : Mark Smithson
Date Collected : 03/26/90
Received : 03/28/90
Tested : 03/29/90 at: 1200

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	24:00	48:00		%
100	0	0	0	0	1	1		8
60	0	0	0	0	0	0		0
30	0	0	0	0	0	0		0
15	0	0	0	0	0	0		0
5	0	0	0	0	0	0		0
Control	0	0	0	0	0	0		0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 02900053

TEST
CONC.
%

E L A P S E D T I M E

00:00 01:00 02:00 04:00 24:00 48:00

100	pH	7.2				7.9
	O2 ppm	8.2				8.3
	Cond.	680				669
	Temp(C)	20.0				20.0
60	pH	7.4				7.9
	O2 ppm	8.9				8.4
	Cond.	538				533
	Temp(C)	20.0				20.0
30	pH	7.6				7.9
	O2 ppm	9.0				8.4
	Cond.	428				426
	Temp(C)	20.0				20.0
15	pH	7.7				7.9
	O2 ppm	9.0				8.4
	Cond.	372				371
	Temp(C)	20.0				20.0
5	pH	7.8				7.9
	O2 ppm	9.0				8.4
	Cond.	333				334
	Temp(C)	20.0				20.0
Control	pH	7.8				7.9
	O2 ppm	9.0				8.4
	Cond.	314				313
	Temp(C)	20.0				20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900265

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : East Side Filter Stage 1, (1900)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 04/03/90
Received : 04/03/90
Tested : 04/04/90 at: 1220
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900265

TEST CONC.	E L A P S E D T I M E	
%	00:00	24:00
100	7.9	8.2
	8.3	8.7
	783	753
	19.5	19.0
50	8.2	8.3
	8.6	8.9
	544	525
	19.5	19.0
25	8.3	8.4
	8.7	8.8
	427	408
	19.5	19.0
13	8.4	8.4
	8.8	8.8
	368	352
	19.5	19.0
6	8.4	8.4
	8.8	8.9
	334	317
	19.5	19.0
Control	8.4	8.5
	8.9	8.9
	302	294
	19.5	19.0

TOXICITY TEST REPORT Sample: 03900345

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel

Control point : East Side Filter Stage 1, (1900)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Johnston
Date Collected : 05/01/90
Received : 05/01/90
Tested : 05/02/90 at: 1105

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	1	8

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900345

TEST CONC. % E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.8 O2 ppm 8.8 Cond. 794 Temp(C) 20.5	20.0	19.5
50	pH 8.1 O2 ppm 9.0 Cond. 547 Temp(C) 20.5	20.0	19.5
25	pH 8.2 O2 ppm 8.9 Cond. 428 Temp(C) 20.5	20.0	19.5
13	pH 8.2 O2 ppm 8.9 Cond. 367 Temp(C) 20.5	20.0	19.5
6	pH 8.2 O2 ppm 9.0 Cond. 331 Temp(C) 20.5	20.0	19.5
Control	pH 8.4 O2 ppm 9.0 Cond. 299 Temp(C) 20.5	20.0	19.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900444

TEST CONDITIONS

Company : Stelco Steel Hilton Works
 Hamilton, ONT
 (950006)
 Region : West Central
 Industry : Iron and Steel
 Control point : East Side Filter Stage 1, (1900)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : P. Peidl
 Date Collected : 06/05/90
 Received : 06/05/90
 Tested : 06/06/90 at: 1320

Type of Bioassay : STATIC
 (Daphnia magna Acute Lethality Toxicity
 Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
 LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900444

TEST CONC. % E L A P S E D T I M E
 00:00 24:00 48:00

100	pH 7.6	7.8
	O2 ppm 8.3	8.4
	Cond. 751	758
	Temp(C) 20.5	20.0
		19.5
50	pH 7.9	8.0
	O2 ppm 8.9	8.7
	Cond. 524	532
	Temp(C) 20.5	20.0
		19.5
25	pH 8.1	8.1
	O2 ppm 9.0	8.8
	Cond. 414	418
	Temp(C) 20.5	20.0
		19.5
13	pH 8.2	8.2
	O2 ppm 9.1	8.9
	Cond. 359	362
	Temp(C) 20.5	20.0
		19.5
6	pH 8.2	8.2
	O2 ppm 9.1	9.0
	Cond. 328	327
	Temp(C) 20.5	20.0
		19.5
Control	pH 8.3	8.2
	O2 ppm 9.1	8.9
	Cond. 296	298
	Temp(C) 20.5	20.0
		19.5

TOXICITY TEST REPORT Sample: 03900554

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : East Side Filter Stage 1, (1900)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 07/03/90
Received : 07/03/90 at: 1330
Tested : 07/04/90
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900554

TEST
CONC.
%

E L A P S E D T I M E

00:00 24:00 48:00

100	pH 7.5	02 ppm 8.2	Cond. 704	Temp(C) 20.5	20.0	20.0
50	pH 7.9	02 ppm 8.7	Cond. 511	Temp(C) 20.5	20.0	20.0
25	pH 8.2	02 ppm 8.9	Cond. 408	Temp(C) 20.5	20.0	20.0
13	pH 8.2	02 ppm 9.0	Cond. 353	Temp(C) 20.5	20.0	20.0
6	pH 8.2	02 ppm 9.1	Cond. 324	Temp(C) 20.5	20.0	20.0
Control	pH 8.5	02 ppm 9.2	Cond. 297	Temp(C) 20.5	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900685

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : East Side Filter Stage 1, (1900)
Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Hibberd
Date Collected : 08/14/90
Received : 08/14/90
Tested : 08/15/90 at: 1625

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900685

TEST CONC. %
ELAPSED TIME
00:00 24:00 48:00

100	pH 7.8 O2 ppm 8.3 Cond. 601 Temp(C) 20.5	20.5	20.5	21.0
50	pH 8.2 O2 ppm 8.8 Cond. 445 Temp(C) 20.5	20.5	20.5	21.0
25	pH 8.3 O2 ppm 8.9 Cond. 364 Temp(C) 20.5	20.5	20.5	21.0
13	pH 8.4 O2 ppm 8.9 Cond. 330 Temp(C) 20.5	20.5	20.5	21.0
6	pH 8.4 O2 ppm 8.9 Cond. 311 Temp(C) 20.5	20.5	20.5	21.0
Control	pH 8.3 O2 ppm 9.3 Cond. 294 Temp(C) 20.5	20.5	20.5	21.0

TOXICITY TEST REPORT Sample: 03890265

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : East Side Filter Stage 2, (2000)

Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 11/14/89
Received : 11/14/89
Tested : 11/18/89 at: 1600

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
Control	0	0	1	1	8
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890265

TEST CONC. % E L A P S E D T I M E
00:00 04:00 24:00 48:00

Control	pH	7.9	8.3
	O2 ppm	8.9	9.3
	Cond.	303	302
	Temp(C)	20.0	20.0
6	pH	8.0	8.4
	O2 ppm	9.1	9.5
	Cond.	317	321
	Temp(C)	20.0	20.0
13	pH	8.0	8.4
	O2 ppm	8.9	9.7
	Cond.	339	342
	Temp(C)	20.0	20.0
25	pH	8.0	8.3
	O2 ppm	9.0	9.5
	Cond.	374	378
	Temp(C)	20.0	20.0
50	pH	7.9	8.3
	O2 ppm	9.1	9.3
	Cond.	452	450
	Temp(C)	20.0	20.0
100	pH	7.7	8.2
	O2 ppm	9.0	9.1
	Cond.	600	590
	Temp(C)	20.0	20.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900178

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : East Side Filter Stage 2, (2000)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 03/06/90
Received : 03/06/90
Tested : 03/10/90 at: 1355

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME			TOTAL MORTALITY
	%	00:00	24:00 48:00	
100	0	0	1	8
50	0	4	6	50
25	0	5	5	41
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : Lethal; No concentration:effect relationship

TOXICITY TEST PARAMETERS

Sample Number: 03900178

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.7 O2 ppm 8.8 Cond. 746 Temp(C) 19.5	20.0	8.0 8.5 745 20.0
50	pH 8.0 O2 ppm 8.8 Cond. 522 Temp(C) 19.5	20.0	8.2 8.6 527 20.0
25	pH 8.3 O2 ppm 8.8 Cond. 413 Temp(C) 19.5	20.0	8.3 8.7 417 20.0
13	pH 8.4 O2 ppm 8.8 Cond. 358 Temp(C) 19.5	20.0	8.3 8.7 362 20.0
6	pH 8.4 O2 ppm 8.8 Cond. 324 Temp(C) 19.5	20.0	8.3 8.7 334 20.0
Control	pH 8.5 O2 ppm 8.9 Cond. 302 Temp(C) 19.5	20.0	8.4 8.6 306 20.0

TOXICITY TEST REPORT Sample: 02900052

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : East Side Filter Stage 2, (2000)
Laboratory : MOE
Sampling Method : Grab
Sampled By : Mark Smithson
Date Collected : 03/26/90
Received : 03/28/90
Tested : 03/29/90 at: 1130
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	24:00	48:00	%	
100	0	0	0	0	0	0	0	
60	0	0	0	0	0	0	0	
30	0	0	0	0	0	0	0	
15	0	0	0	0	0	0	0	
5	0	0	0	0	0	0	0	
Control	0	0	0	0	0	0	0	

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 02900052

TEST CONC. %	E L A P S E D T I M E						
	00:00	01:00	02:00	04:00	24:00	48:00	
100	pH 7.3 O2 ppm 7.8 Cond. 685 Temp(C) 20.0						pH 7.9 O2 ppm 8.1 Cond. 670 Temp(C) 20.0
60	pH 7.5 O2 ppm 8.8 Cond. 537 Temp(C) 20.0						pH 7.9 O2 ppm 8.3 Cond. 531 Temp(C) 20.0
30	pH 7.7 O2 ppm 8.9 Cond. 425 Temp(C) 20.0						pH 7.9 O2 ppm 8.3 Cond. 420 Temp(C) 20.0
15	pH 7.7 O2 ppm 9.0 Cond. 369 Temp(C) 20.0						pH 7.8 O2 ppm 8.4 Cond. 370 Temp(C) 20.0
5	pH 7.8 O2 ppm 9.0 Cond. 332 Temp(C) 20.0						pH 7.8 O2 ppm 8.4 Cond. 338 Temp(C) 20.0
Control	pH 7.7 O2 ppm 9.1 Cond. 313 Temp(C) 20.0						pH 7.8 O2 ppm 8.3 Cond. 313 Temp(C) 20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900266

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : East Side Filter Stage 2, (2000)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 04/03/90
Received : 04/03/90
Tested : 04/04/90 at: 1135

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900266

TEST CONC. %	E L A P S E D T I M E		
	00:00	24:00	48:00
100	pH 7.8 O2 ppm 8.8 Cond. 780 Temp(C) 19.5	8.2 8.7 755 19.0	8.3 8.7 755 19.5
50	pH 8.1 O2 ppm 8.8 Cond. 544 Temp(C) 19.5	8.3 9.0 524 19.0	8.3 9.0 524 19.5
25	pH 8.3 O2 ppm 8.7 Cond. 423 Temp(C) 19.5	8.4 9.0 411 19.0	8.4 9.0 411 19.5
13	pH 8.3 O2 ppm 8.7 Cond. 366 Temp(C) 19.5	8.4 9.0 353 19.0	8.4 9.0 353 19.5
6	pH 8.4 O2 ppm 8.8 Cond. 328 Temp(C) 19.5	8.4 8.9 320 19.0	8.4 8.9 320 19.5
Control	pH 8.4 O2 ppm 8.9 Cond. 302 Temp(C) 19.5	8.5 9.0 294 19.0	8.5 9.0 294 19.5

TOXICITY TEST REPORT Sample: 03900346

TEST CONDITIONS

Company : Stelco Steel Hilton Works

Hamilton, ONT
(950006)Region : West Central
Industry : Iron and Steel

Control point : East Side Filter Stage 2, (2000)

Laboratory : BAR

Sampling Method : Grab

Sampled By : D. Johnston

Date Collected : 05/01/90

Received : 05/01/90

Tested : 05/02/90 at: 1140

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)Test Animal : D. magna
Weight(gm) :
Length(mm) :MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900346

TEST CONC. %	E L A P S E D T I M E	
	00:00	24:00 48:00

100	pH 7.7	02 ppm 8.4	Cond. 800	Temp(C) 20.5	20.0	19.0
50	pH 8.0	02 ppm 8.8	Cond. 553	Temp(C) 20.5	20.0	19.0
25	pH 8.2	02 ppm 8.9	Cond. 429	Temp(C) 20.5	20.0	19.0
13	pH 8.2	02 ppm 9.0	Cond. 366	Temp(C) 20.5	20.0	19.0
6	pH 8.3	02 ppm 9.0	Cond. 333	Temp(C) 20.5	20.0	19.0
Control	pH 8.4	02 ppm 9.0	Cond. 299	Temp(C) 20.5	20.0	19.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900445

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : East Side Filter Stage 2, (2000)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 06/05/90
Received : 06/05/90
Tested : 06/06/90 at: 1325

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900445

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.6 O2 ppm 7.9 Cond. 749 Temp(C) 20.5	7.9 8.2 764 20.0	7.9 8.2 764 19.5
50	pH 7.9 O2 ppm 8.7 Cond. 522 Temp(C) 20.5	8.0 8.5 533 20.0	8.0 8.5 533 19.5
25	pH 8.1 O2 ppm 9.0 Cond. 410 Temp(C) 20.5	8.1 8.7 421 20.0	8.1 8.7 421 19.5
13	pH 8.2 O2 ppm 9.0 Cond. 353 Temp(C) 20.5	8.2 8.7 364 20.0	8.2 8.7 364 19.5
6	pH 8.3 O2 ppm 9.0 Cond. 324 Temp(C) 20.5	8.3 8.8 329 20.0	8.3 8.8 329 19.5
Control	pH 8.3 O2 ppm 9.1 Cond. 296 Temp(C) 20.5	8.3 8.9 304 20.0	8.3 8.9 304 19.5

TOXICITY TEST REPORT Sample: 03900555

TEST CONDITIONS

Company : Stelco Steel Hilton Works

Hamilton, ONT
(950006)Region : West Central
Industry : Iron and Steel

Control point : East Side Filter Stage 2, (2000)

Laboratory : BAR

Sampling Method : Grab

Sampled By : P. Peidl

Date Collected : 07/03/90

Received : 07/03/90

Tested : 07/04/90 at: 1440

Type of Bioassay

: STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal

Weight(gm)

Length(mm)

: D. magna
:
:MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900555

TEST CONC.	E L A P S E D T I M E	
%	00:00	24:00 48:00

100	pH 7.5	7.8
	O2 ppm 8.4	8.0
	Cond. 708	710
	Temp(C) 21.0	20.0
50	pH 7.8	8.0
	O2 ppm 8.8	8.1
	Cond. 513	511
	Temp(C) 21.0	20.0
25	pH 8.1	8.1
	O2 ppm 8.9	8.1
	Cond. 409	409
	Temp(C) 21.0	20.0
13	pH 8.2	8.2
	O2 ppm 8.9	8.1
	Cond. 353	356
	Temp(C) 21.0	20.0
6	pH 8.3	8.2
	O2 ppm 8.9	8.1
	Cond. 324	326
	Temp(C) 21.0	20.0
Control	pH 8.5	8.2
	O2 ppm 9.2	8.2
	Cond. 297	301
	Temp(C) 21.0	20.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900686

TEST CONDITIONS

Company : Stelco Steel Hilton Works
Hamilton, ONT
(950006)
Region : West Central
Industry : Iron and Steel
Control point : East Side Filter Stage 2, (2000)
Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Hibberd
Date Collected : 08/14/90
Received : 08/14/90
Tested : 08/16/90 at: 1030

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 24:00 48:00	%
100	0 0 0	0
50	0 0 0	0
25	0 0 0	0
13	0 0 0	0
6	0 0 0	0
Control	0 0 0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900686
TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.7 O2 ppm 8.0 Cond. 8.2 Temp(C) 608	20.0 20.0 20.0	8.0 8.4 609
50	pH 8.0 O2 ppm 8.6 Cond. 460 Temp(C) 20.0	20.0 20.0 20.0	8.2 8.6 454
25	pH 8.2 O2 ppm 8.7 Cond. 385 Temp(C) 20.0	20.0 20.0 20.0	8.3 8.7 381
13	pH 8.3 O2 ppm 8.8 Cond. 349 Temp(C) 20.0	20.0 20.0 20.0	8.3 8.8 350
6	pH 8.3 O2 ppm 8.7 Cond. 327 Temp(C) 20.0	20.0 20.0 20.0	8.4 8.9 329
Control	pH 8.3 O2 ppm 8.8 Cond. 309 Temp(C) 20.0	20.0 20.0 20.0	8.3 8.9 311

COMPANY: Stelco Steel Lake Erie Works, Nanticoke
(950105)
SECTOR: Iron and Steel
REGION: West Central

SUMMARY

The data for 13 acute lethality trout bioassays conducted on samples collected from the # 4 Pond discharge between November 1989 and November 1990 were submitted by Stelco Steel Lake Erie Works. Twelve of the samples were determined to have been not acutely lethal to trout, while the remaining two samples produced a 96 h LC50 > 100 %. A Ministry audit sample collected in April 1990 was determined nonlethal to test fish.

#4 Pond Discharge

03890273	sampled: 11/15/89	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non lethal	
03890324	sampled: 12/05/89	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	
03900034	sampled: 01/16/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	
03900092	sampled: 02/06/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Single Concentration Test	
03900174	sampled: 03/06/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Single concentration test; Non lethal	
03900261	sampled: 04/03/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Single concentration test; non lethal	
01900069	sampled: 04/17/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	MISA Audit; Non-lethal	
03900342	sampled: 05/01/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non lethal; single concentration test	

Stelco Steel Lake Erie Works (continued)

03900447 sampled: 06/05/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: Single concentration test; 5% mort. @ 100%

03900549 sampled: 07/03/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; Non lethal

03900650 sampled: 08/07/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900769 sampled: 09/04/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900899 sampled: 10/11/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non Lethal; single concentration test

Lagoon E

Blowdown Treatment Plant

Storm Water Pond #2

Coal Storage Area

Rain Gauge

Intake Water

TOXICITY TEST REPORT Sample: 03890273

TEST CONDITIONSCompany : Stelco Steel Lake Erie Works
Nanticoke, ONT
(950105)Region : West Central
Industry : Iron and Steel

Control point : #4 Pond Discharge, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Milne
Date Collected : 11/15/89
Received : 11/15/89
Tested : 11/16/89 at: 1000Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00	%	
Control	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890273

TEST CONC. %	E L A P S E D T I M E						
	00:00	04:00	24:00	48:00	72:00	96:00	

Control	pH	7.9					8.5
	O2 ppm	9.0					9.3
	Cond.	558					557
	Temp(C)	15.5	14.5	15.0	14.0	14.0	15.0
10	pH	7.9					8.5
	O2 ppm	9.0					9.3
	Cond.	607					608
	Temp(C)	15.5	14.5	15.0	14.0	14.0	15.0
20	pH	7.9					8.5
	O2 ppm	9.0					9.2
	Cond.	655					657
	Temp(C)	15.5	14.5	15.0	14.0	14.0	15.0
40	pH	7.9					8.4
	O2 ppm	9.0					9.2
	Cond.	754					755
	Temp(C)	15.5	14.5	15.0	14.0	14.0	15.0
65	pH	7.9					8.4
	O2 ppm	9.2					9.5
	Cond.	882					883
	Temp(C)	15.5	14.5	15.0	14.0	14.0	15.0
100	pH	8.1					8.1
	O2 ppm	9.3					9.2
	Cond.	1054					1060
	Temp(C)	15.5	14.5	15.0	14.0	14.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890324

TEST CONDITIONS

Company : Stelco Steel Lake Erie Works

Region : Nanticoke, ONT (950105)

Industry : West Central

Control point : #4 Pond Discharge, (100)

Laboratory : BAR

Sampling Method : Grab

Sampled By : S. Milne

Date Collected : 12/05/89

Received : 12/05/89

Tested : 12/06/89 at: 1300

Type of Bioassay : STATIC

(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
65	0	0	0	0	0
40	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890324

TEST CONC.	E L A P S E D T I M E			
%	00:00	24:00	48:00	72:00
100	8.5	8.5	8.5	8.5
65	8.1	8.1	8.1	8.1
40	7.9	7.9	7.9	7.9
20	7.8	7.8	7.8	7.8
10	7.8	7.8	7.8	7.8
Control	7.8	7.8	7.8	7.8

100	pH	8.5	8.5	8.5	8.5
	02 ppm Cond.	9.7	9.7	9.7	9.7
	Temp(C)	1185	1185	1185	1185
65	pH	8.1	8.1	8.1	8.1
	02 ppm Cond.	9.3	9.3	9.3	9.3
	Temp(C)	966	966	966	966
40	pH	7.9	7.9	7.9	7.9
	02 ppm Cond.	8.8	8.8	8.8	8.8
	Temp(C)	805	805	805	805
20	pH	7.8	7.8	7.8	7.8
	02 ppm Cond.	9.1	9.1	9.1	9.1
	Temp(C)	688	688	688	688
10	pH	7.8	7.8	7.8	7.8
	02 ppm Cond.	8.9	8.9	8.9	8.9
	Temp(C)	630	630	630	630
Control	pH	7.8	7.8	7.8	7.8
	02 ppm Cond.	8.9	8.9	8.9	8.9
	Temp(C)	565	565	565	565

TOXICITY TEST REPORT Sample: 03900034

TEST CONDITIONSCompany : Stelco Steel Lake Erie Works
Nanticoke, ONT
(950105)Region : West Central
Industry : Iron and Steel

Control point : #4 Pond Discharge, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : H. Stewart
Date Collected : 01/16/90
Received : 01/16/90
Tested : 01/17/90 at: 1800Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900034

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00

100	pH	8.3			7.8
	O2 ppm	9.9			8.4
	Cond.	1286			1294
	Temp(C)	15.0	15.0	14.0	14.5
65	pH	8.2			8.0
	O2 ppm	9.7			8.5
	Cond.	1029			1039
	Temp(C)	15.0	15.0	14.0	14.5
40	pH	8.1			8.2
	O2 ppm	9.6			8.9
	Cond.	860			858
	Temp(C)	15.0	15.0	14.0	14.5
20	pH	8.0			8.3
	O2 ppm	9.3			9.0
	Cond.	702			704
	Temp(C)	15.0	15.0	14.0	14.5
10	pH	8.0			8.2
	O2 ppm	9.1			8.7
	Cond.	628			632
	Temp(C)	15.0	15.0	14.0	14.5
5	pH	8.0			8.2
	O2 ppm	9.1			8.5
	Cond.	593			597
	Temp(C)	15.0	15.0	14.0	14.5
Control	pH	7.9			8.3
	O2 ppm	8.7			8.7
	Cond.	555			556
	Temp(C)	15.0	15.0	14.0	14.5

MISA Trout

TOXICITY TEST REPORT Sample: 039000092

TEST CONDITIONS

Company : Stelco Steel Lake Erie Works
Nanticoke, ONT
(950105)

Region : West Central
Industry : Iron and Steel

Control point : #4 Pond Discharge, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Milne
Date Collected : 02/06/90
Received : 02/06/90
Tested : 02/07/90 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 039000092

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00 72:00 96:00

100	pH 8.2 O2 ppm 9.9 Cond. 1269 Temp(C) 15.0	15.0	15.0	15.0	14.0	8.0 9.2 1263 14.0
100	pH 8.2 O2 ppm 9.9 Cond. 1269 Temp(C) 15.0	15.0	15.0	15.0	14.0	8.1 9.5 1268 14.0
Control	pH 7.8 O2 ppm 8.3 Cond. 536 Temp(C) 15.0	15.0	15.0	15.0	14.0	8.5 9.4 529 14.0
Control	pH 7.8 O2 ppm 8.3 Cond. 536 Temp(C) 15.0	15.0	15.0	15.0	14.0	8.5 9.6 532 14.0

TOXICITY TEST REPORT Sample: 03900174

TEST CONDITIONS

Company : Stelco Steel Lake Erie Works
Nanticoke, ONT
(950105)
Region : West Central
Industry : Iron and Steel
Control point : #4 Pond Discharge, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Milne
Date Collected : 03/06/90
Received : 03/06/90
Tested : 03/07/90 at: 1345

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single concentration test; Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900174

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.7 O2 ppm 10.7 Cond. 1214 Temp(C) 15.5				7.9 9.1 1203 15.0
100	pH 8.7 O2 ppm 10.7 Cond. 1214 Temp(C) 15.5		14.0 14.0 14.5		8.0 9.2 1195 15.0
Control	pH 7.8 O2 ppm 9.0 Cond. 544 Temp(C) 15.5		14.0 14.0 14.5		8.3 8.8 544 15.0
Control	pH 7.8 O2 ppm 9.0 Cond. 544 Temp(C) 15.5		14.0 14.0 14.5		8.4 9.1 533 15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900261

TEST CONDITIONS

Company : Stelco Steel Lake Erie Works
Nanticoke, ONT
(950105)

Region : West Central
Industry : Iron and Steel

Control point : #4 Pond Discharge, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Milne
Date Collected : 04/03/90
Received : 04/03/90
Tested : 04/04/90 at: 1155

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	1	1	1	10

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single concentration test; non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900261

TEST E L A P S E D T I M E
CONC. %
00:00 24:00 48:00 72:00 96:00

100	pH	8.5				8.1
	O2 ppm	10.0				9.8
	Cond.	1173				1186
	Temp(C)	15.0	14.5	14.0	14.5	14.0
100	pH	8.5				7.9
	O2 ppm	10.0				9.3
	Cond.	1173				1191
	Temp(C)	15.0	14.5	14.0	14.5	14.0
Control	pH	7.9				8.4
	O2 ppm	9.2				9.7
	Cond.	540				539
	Temp(C)	15.0	14.5	14.0	14.5	14.0
Control	pH	7.9				8.4
	O2 ppm	9.2				9.7
	Cond.	540				534
	Temp(C)	15.0	14.5	14.0	14.5	14.0

TOXICITY TEST REPORT Sample: 01900069

TEST CONDITIONS

Company : Stelco Steel Lake Erie Works

Region : West Central

Industry : Iron and Steel

Control point : #4 Pond Discharge, (100)

Laboratory : MOE

Sampling Method : Grab

Sampled By : M. Smith

Date Collected : 04/17/90

Received : 04/18/90

Tested : 04/20/90 at: 1100

Type of Bioassay : STATIC

(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E								TOTAL MORTALITY	
%	00:00	00:30	01:00	02:00	27:00	51:00	69:30	96:00	%	
100	0	0	0	0	0	0	0	0	0	
65	0	0	0	0	0	0	0	0	0	
40	0	0	0	0	0	0	0	0	0	
30	0	0	0	0	0	0	0	0	0	
20	0	0	0	0	0	0	0	0	0	
10	0	0	0	0	0	0	0	0	0	
Control	0	0	0	0	0	0	0	0	0	

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit; Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 01900069

TEST CONC.	E L A P S E D T I M E							
%	00:00	00:30	01:00	02:00	27:00	51:00	69:30	96:00
100	pH 8.2	8.2	8.2	7.5	8.0	7.9	7.9	7.9
	O2 ppm 9.8	9.8	9.8	8.3	9.6	9.5	9.5	9.7
	Cond. 2600	840	840	15.0	840	800	840	840
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
65	pH 8.1	8.1	8.1	7.7	7.8	7.7	7.7	7.7
	O2 ppm 9.8	9.8	9.8	9.5	9.4	9.2	9.2	9.6
	Cond. 630	630	630	640	640	620	640	640
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
40	pH 8.0	8.0	8.0	8.0	8.0	7.8	7.8	7.9
	O2 ppm 9.8	9.8	9.8	9.8	9.6	9.5	9.5	9.7
	Cond. 490	490	490	490	490	485	500	500
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
30	pH 7.9	7.9	7.9	7.7	7.7	7.6	7.6	7.8
	O2 ppm 9.8	9.8	9.8	9.5	9.4	9.2	9.2	9.8
	Cond. 440	440	440	445	445	435	450	450
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
20	pH 7.8	7.8	7.8	7.8	7.8	7.5	7.5	7.8
	O2 ppm 9.8	9.8	9.8	9.8	9.6	9.4	9.4	9.8
	Cond. 395	395	395	395	395	385	395	395
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
10	pH 7.8	7.8	7.8	7.8	7.8	7.4	7.4	7.8
	O2 ppm 9.8	9.8	9.8	9.7	9.7	9.4	9.4	9.8
	Cond. 330	330	330	330	330	320	330	330
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Control	pH 7.7	7.7	7.7	7.9	7.9	6.9	6.9	7.8
	O2 ppm 9.6	9.6	9.6	9.9	9.4	9.9	9.9	9.9
	Cond. 260	260	260	265	265	240	265	265
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900342

TEST CONDITIONS

Company : Stelco Steel Lake Erie Works
Nanticoke, ONT
(950105)

Region : West Central
Industry : Iron and Steel

Control point : #4 Pond Discharge, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Milne
Date Collected : 05/01/90
Received : 05/01/90
Tested : 05/02/90 at: 1440

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal; single concentration test

TOXICITY TEST PARAMETERS

Sample Number: 03900342

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.6 O2 ppm 9.8 Cond. 1220 Temp(C) 15.5	15.0	14.5	14.5	8.1 9.7 1236 14.5
100	pH 8.6 O2 ppm 9.8 Cond. 1220 Temp(C) 15.5	15.0	14.5	14.5	8.1 9.8 1240 14.5
Control	pH 8.0 O2 ppm 9.5 Cond. 551 Temp(C) 15.5	15.0	14.5	14.5	8.3 9.1 556 14.5
Control	pH 8.0 O2 ppm 9.5 Cond. 551 Temp(C) 15.5	15.0	14.5	14.5	8.4 9.5 526 14.5

TOXICITY TEST REPORT Sample: 03900447

TEST CONDITIONS

Company : Stelco Steel Lake Erie Works
Nanticoke, ONT
(950105)
Region : West Central
Industry : Iron and Steel
Control point : #4 Pond Discharge, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : P. Peidl
Date Collected : 06/05/90
Received : 06/05/90
Tested : 06/06/90 at: 1320
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	1	1	1	10
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : Single concentration test; 5% mort. @ 100%

TOXICITY TEST PARAMETERS

Sample Number: 03900447

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00

100	pH	8.8			8.0
	O2 ppm	9.0			8.8
	Cond.	1244			1231
	Temp(C)	15.0	15.5	15.5	16.0
					15.5
100	pH	8.8			7.9
	O2 ppm	9.0			8.5
	Cond.	1244			1240
	Temp(C)	15.0	15.5	15.5	16.0
					15.5
Control	pH	7.8			8.3
	O2 ppm	8.5			8.7
	Cond.	552			536
	Temp(C)	15.0	15.5	15.5	16.0
					15.5
Control	pH	7.8			8.3
	O2 ppm	8.5			8.6
	Cond.	552			541
	Temp(C)	15.0	15.5	15.5	16.0
					15.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900549

TEST CONDITIONS

Company : Stelco Steel Lake Erie Works

Nanticoke, ONT
(950105)

Region : West Central

Industry : Iron and Steel

Control point : #4 Pond Discharge, (100)

Laboratory : BAR

Sampling Method : Grab

Sampled By : S. Milne

Date Collected : 07/03/90

Received : 07/03/90

Tested : 07/04/90 at: 1205

Type of Bioassay : STATIC

(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout

Weight(gm) :

Length(mm) :

MORTALITY DATA

EST ONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50

: Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900549

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00

100	pH	8.6			7.8
	O2 ppm	9.7			8.3
	Cond.	1046			1018
	Temp(C)	15.5	15.0	15.5	15.5
100	pH	8.6			7.8
	O2 ppm	9.7			8.7
	Cond.	1046			1027
	Temp(C)	15.5	15.0	15.5	15.5
Control	pH	7.8			8.3
	O2 ppm	9.6			9.0
	Cond.	539			530
	Temp(C)	15.5	15.0	15.5	15.5
Control	pH	7.8			8.3
	O2 ppm	9.6			8.9
	Cond.	539			534
	Temp(C)	15.5	15.0	15.5	15.5

TOXICITY TEST REPORT Sample: 03900650

TEST CONDITIONSCompany : Stelco Steel Lake Erie Works
Nanticoke, ONT
(950105)Region : West Central
Industry : Iron and Steel

Control point : #4 Pond Discharge, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : R. Kiehl
Date Collected : 08/07/90
Received : 08/07/90
Tested : 08/08/90 at: 930Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900650

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00

100	pH	8.7			7.9
	O2 ppm	8.9			8.9
	Cond.	749			765
	Temp(C)	16.0	15.0	15.0	15.5 16.0
100	pH	8.7			7.8
	O2 ppm	8.9			8.8
	Cond.	749			766
	Temp(C)	16.0	15.0	15.0	15.5 16.0
Control	pH	7.9			8.2
	O2 ppm	8.3			8.8
	Cond.	544			551
	Temp(C)	16.0	15.0	15.0	15.5 16.0
Control	pH	7.9			8.2
	O2 ppm	8.3			8.9
	Cond.	544			548
	Temp(C)	16.0	15.0	15.0	15.5 16.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900769

TEST CONDITIONSCompany : Stelco Steel Lake Erie Works
Nanticoke, ONT
(950105)Region : West Central
Industry : Iron and Steel

Control point : #4 Pond Discharge, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Milne
Date Collected : 09/04/90
Received : 09/05/90
Tested : 09/06/90 at: 1035Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
65	0	0	0	0	0
40	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900769

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00

100	pH 8.3				8.2
	O2 ppm 8.8				9.1
	Cond. 761				756
	Temp(C) 15.5	16.0	15.5	15.5	15.5
65	pH 8.0				8.1
	O2 ppm 8.6				8.7
	Cond. 682				678
	Temp(C) 15.5	16.0	15.5	15.5	15.5
40	pH 8.0				8.1
	O2 ppm 8.5				8.9
	Cond. 626				619
	Temp(C) 15.5	16.0	15.5	15.5	15.5
20	pH 7.9				8.2
	O2 ppm 8.3				9.2
	Cond. 581				578
	Temp(C) 15.5	16.0	15.5	15.5	15.5
10	pH 7.9				8.1
	O2 ppm 8.3				8.7
	Cond. 560				557
	Temp(C) 15.5	16.0	15.5	15.5	15.5
5	pH 7.9				8.2
	O2 ppm 8.2				8.9
	Cond. 550				547
	Temp(C) 15.5	16.0	15.5	15.5	15.5
Control	pH 7.9				8.5
	O2 ppm 8.2				9.4
	Cond. 537				526
	Temp(C) 15.5	16.0	15.5	15.5	15.5

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900899

TEST CONDITIONS

Company : Stelco Steel Lake Erie Works
Nanticoke, ONT
(950105)
Region : West Central
Industry : Iron and Steel
Control point : #4 Pond Discharge, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : R. Kiehl
Date Collected : 10/11/90
Received : 10/11/90
Tested : 10/12/90 at: 1005

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
§	00:00	24:00	48:00	72:00	96:00	§
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 §
Comments : Non Lethal; single concentration test

TOXICITY TEST PARAMETERS

Sample Number: 03900899

TEST
CONC. E L A P S E D T I M E
§ 00:00 24:00 48:00 72:00 96:00

100	pH	8.1				8.1
	O2 ppm	10.0				9.0
	Cond.	687				687
	Temp(C)	15.0	15.5	15.5	15.0	15.5
100	pH	8.1				8.0
	O2 ppm	10.0				8.5
	Cond.	687				683
	Temp(C)	15.0	15.5	15.5	15.0	15.5
Control	pH	8.0				8.5
	O2 ppm	9.5				9.5
	Cond.	543				534
	Temp(C)	15.0	15.5	15.5	15.0	15.5
Control	pH	8.0				8.5
	O2 ppm	9.5				9.5
	Cond.	543				534
	Temp(C)	15.0	15.5	15.5	15.0	15.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900899

TEST CONDITIONS

Company : Stelco Steel Lake Erie Works
Nanticoke, ONT
(950105)

Region : West Central
Industry : Iron and Steel

Control point : #4 Pond Discharge, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : R. Kiehl
Date Collected : 10/11/90
Received : 10/11/90
Tested : 10/12/90 at: 1005

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non Lethal; single concentration test

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900899

TEST
CONC.
%

E L A P S E D T I M E

00:00 24:00 48:00 72:00 96:00

100	pH 8.1 02 ppm 10.0 Cond. 687 Temp(C) 15.0	15.5	15.5	15.0	15.5	8.1 10.0 687 15.0
100	pH 8.1 02 ppm 10.0 Cond. 687 Temp(C) 15.0	15.5	15.5	15.0	15.5	8.0 8.5 683 15.5
Control	pH 8.0 02 ppm 9.5 Cond. 543 Temp(C) 15.0	15.5	15.5	15.0	15.5	8.5 9.5 534 15.5
Control	pH 8.0 02 ppm 9.5 Cond. 543 Temp(C) 15.0	15.5	15.5	15.0	15.5	8.5 9.5 534 15.5

COMPANY: Stelco Steel Lake Erie Works, Nanticoke
(950105)
SECTOR: Iron and Steel
REGION: West Central

SUMMARY

Data for eleven *Daphnia magna* acute lethality toxicity tests conducted on samples of effluent from # 4 pond discharge collected between November 1989 and September 1990 were submitted by Stelco Steel Lake Erie Works of Nanticoke. Five of eleven samples were not acutely lethal to *Daphnia* and four samples had LC50s > 100%. The samples collected in February and June were toxic to *Daphnia* with 48 h LC50s of 27% and 58% respectively. A sample collected in March and tested in the Ministry laboratory was not acutely lethal to *Daphnia*.

#4 Pond Discharge

03890273	sampled: 11/15/89	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:	LC50 > 100	
03890324	sampled: 12/05/89	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:	LC50 >100%	
03900034	sampled: 01/16/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non lethal	
03900092	sampled: 02/06/90	LC50: 26.9 %
95% fid. limits:	19.4 -	37.3 % slope: 3.5
comments:	Lethal	
03900174	sampled: 03/06/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:	LC50>100	
03900261	sampled: 04/03/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	
02900069	sampled: 04/17/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	MISA Audit	
03900342	sampled: 05/01/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:	LC50 >100	

Stelco Steel Lake Erie Works (continued)

03900447 sampled: 06/05/90 LC50: 58.4 %
95% fid. limits: 46.2 - 73.8 % slope: 5.7
comments: Lethal

03900549 sampled: 07/03/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900650 sampled: 08/07/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900769 sampled: 09/04/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900899 sampled: 10/11/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non Lethal

Lagoon E

Blowdown Treatment Plant

Storm Water Pond #2

Coal Storage Area

Rain Gauge

Intake Water

TOXICITY TEST REPORT Sample: 03890273

TEST CONDITIONS

Company : Stelco Steel Lake Erie Works

Region : Nanticoke, ONT
(950105)

Industry : West Central

Control point : #4 Pond Discharge, (100)

Laboratory : BAR

Sampling Method : Grab

Sampled By : S. Milne

Date Collected : 11/15/89

Received : 11/15/89

Tested : 11/18/89 at: 1600

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	1	8
100	0	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 > 100

TOXICITY TEST PARAMETERS

Sample Number: 03890273

TEST CONC. %
E L A P S E D T I M E
00:00 04:00 24:00 48:00

Control	pH	7.9	8.3
	O2 ppm	8.9	9.6
	Cond.	303	301
	Temp(C)	20.0	19.0
6	pH	8.2	8.4
	O2 ppm	9.0	9.3
	Cond.	344	342
	Temp(C)	20.0	19.0
13	pH	8.2	8.3
	O2 ppm	8.9	9.2
	Cond.	398	398
	Temp(C)	20.0	19.0
25	pH	8.1	8.3
	O2 ppm	8.9	9.1
	Cond.	487	486
	Temp(C)	20.0	19.0
50	pH	8.1	8.3
	O2 ppm	9.1	9.0
	Cond.	678	670
	Temp(C)	20.0	19.0
100	pH	8.1	8.3
	O2 ppm	9.0	8.9
	Cond.	1045	1032
	Temp(C)	20.0	19.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890324

TEST CONDITIONS

Company : Stelco Steel Lake Erie Works

Region : Nanticoke, ONT (950105)

Industry : West Central

Control point : #4 Pond Discharge, (100)

Laboratory : BAR

Sampling Method : Grab

Date Collected : S. Milne

Received : 12/05/89

Tested : 12/06/89 at: 1215

Type of Bioassay

: STATIC (Daphnia magna Acute Lethality Toxicity Test Protocol. OME, 1988)

Test Animal

: D. magna

Weight(gm)

: Length(mm)

MORTALITY DATA

TEST CONC.	%	E L A P S E D	T I M E	TOTAL MORTALITY
		00:00	24:00	48:00
100	0	0	2	16
50	0	0	1	8
25	0	0	0	0
13	0	0	1	8
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100%

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890324

TEST CONC. %	E L A P S E D	T I M E
	00:00	24:00
		48:00

100	pH	8.6	8.4
	O2 ppm	9.5	8.4
	Cond.	1180	1182
	Temp(C)	19.0	19.0
			19.5
50	pH	8.4	8.3
	O2 ppm	9.1	8.8
	Cond.	744	752
	Temp(C)	19.0	19.0
			19.5
25	pH	8.4	8.3
	O2 ppm	9.0	9.2
	Cond.	525	512
	Temp(C)	19.0	19.0
			19.5
13	pH	8.3	8.3
	O2 ppm	9.0	9.2
	Cond.	418	409
	Temp(C)	19.0	19.0
			19.5
6	pH	8.3	8.3
	O2 ppm	8.9	9.2
	Cond.	352	348
	Temp(C)	19.0	19.0
			19.5
Control	pH	8.3	8.3
	O2 ppm	9.0	8.7
	Cond.	293	289
	Temp(C)	19.0	19.0
			19.5

TOXICITY TEST REPORT Sample: 03900034

TEST CONDITIONSCompany : Stelco Steel Lake Erie Works
Nanticoke, ONT
(950105)Region : West Central
Industry : Iron and Steel

Control point : #4 Pond Discharge, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : H. Stewart
Date Collected : 01/16/90
Received : 01/16/90
Tested : 01/17/90 at: 1100Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)Test Animal : D. magna
Weight(gm) :
Length(mm) :MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900034

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.3	8.1
	O2 ppm 9.2	8.6
	Cond. 1262	1275
	Temp(C) 20.0	19.0 20.0
50	pH 8.3	8.2
	O2 ppm 9.0	8.7
	Cond. 788	791
	Temp(C) 20.0	19.0 20.0
25	pH 8.4	8.3
	O2 ppm 8.9	8.8
	Cond. 541	544
	Temp(C) 20.0	19.0 20.0
13	pH 8.4	8.3
	O2 ppm 8.8	8.8
	Cond. 430	432
	Temp(C) 20.0	19.0 20.0
6	pH 8.4	8.3
	O2 ppm 8.8	8.7
	Cond. 357	360
	Temp(C) 20.0	19.0 20.0
Control	pH 8.4	8.3
	O2 ppm 8.8	8.6
	Cond. 296	293
	Temp(C) 20.0	19.0 20.0

MISA Daphnia

SLOPE of Mortality Curve : 3.5
LC50 Calculated By : Probit

TOXICITY TEST REPORT Sample: 03900092

TEST CONDITIONS

Company : Stelco Steel Lake Erie Works
Nanticoke, ONT
(950105)
Region : West Central
Industry : Iron and Steel
Control point : #4 Pond Discharge, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Milne
Date Collected : 02/06/90
Received : 02/06/90
Tested : 02/07/90 at: 930

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	11	12	100
50	0	10	12	100
25	0	4	4	33
13	0	0	1	8
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : 26.9 %
95% fid. limits : 19.4 - 37.3 %
Comments : Lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900092

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.2 O2 ppm 8.8 Cond. 1240 Temp(C) 20.0	8.1 8.8 1229 20.0
50	pH 8.4 O2 ppm 8.6 Cond. 779 Temp(C) 20.0	8.3 8.8 770 20.0
25	pH 8.5 O2 ppm 8.4 Cond. 543 Temp(C) 20.0	8.4 8.8 535 20.0
13	pH 8.5 O2 ppm 8.4 Cond. 427 Temp(C) 20.0	8.4 8.8 423 20.0
6	pH 8.5 O2 ppm 8.3 Cond. 357 Temp(C) 20.0	8.4 8.8 353 20.0
Control	pH 8.5 O2 ppm 8.7 Cond. 300 Temp(C) 20.0	8.4 8.6 300 20.0

TOXICITY TEST REPORT Sample: 03900174

TEST CONDITIONSCompany : Stelco Steel Lake Erie Works
(950105)Region : West Central
Industry : Iron and Steel

Control point : #4 Pond Discharge, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Milne
Date Collected : 03/06/90
Received : 03/06/90
Tested : 03/07/90 at: 1425Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)Test Animal : D. magna
Weight(gm) :
Length(mm) :MORTALITY DATA

TEST CONC.	%	E L A P S E D	T I M E	TOTAL MORTALITY
		00:00	24:00 48:00	%
100	0	0	0	0
50	0	1	1	8
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50>100

TOXICITY TEST PARAMETERS

Sample Number: 03900174

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.8	8.3
	O2 ppm 9.2	8.4
	Cond. 1192	1186
	Temp(C) 19.5	19.5 20.0
50	pH 8.7	8.4
	O2 ppm 8.8	8.4
	Cond. 756	755
	Temp(C) 19.5	19.5 20.0
25	pH 8.6	8.4
	O2 ppm 8.7	8.4
	Cond. 536	534
	Temp(C) 19.5	19.5 20.0
13	pH 8.5	8.4
	O2 ppm 8.6	8.4
	Cond. 424	423
	Temp(C) 19.5	19.5 20.0
6	pH 8.5	8.4
	O2 ppm 8.7	8.4
	Cond. 361	361
	Temp(C) 19.5	19.5 20.0
Control	pH 8.6	8.4
	O2 ppm 8.9	8.5
	Cond. 298	303
	Temp(C) 19.5	19.5 20.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900261

TEST CONDITIONS

Company : Stelco Steel Lake Erie Works
Nanticoke, ONT
(950105)

Region : West Central
Industry : Iron and Steel

Control point : #4 Pond Discharge, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Milne
Date Collected : 04/03/90
Received : 04/03/90
Tested : 04/04/90 at: 1055

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900261

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.4 O2 ppm 8.9 Cond. 1214 Temp(C) 19.5	8.4 8.9 1214 19.5	8.3 8.9 1173 19.5
50	pH 8.4 O2 ppm 8.9 Cond. 763 Temp(C) 19.5	8.4 8.9 763 19.5	8.4 8.9 731 19.5
25	pH 8.4 O2 ppm 8.9 Cond. 533 Temp(C) 19.5	8.4 8.9 533 19.5	8.4 8.9 507 19.5
13	pH 8.4 O2 ppm 8.9 Cond. 424 Temp(C) 19.5	8.4 8.9 424 19.5	8.4 8.9 407 19.5
6	pH 8.4 O2 ppm 8.9 Cond. 358 Temp(C) 19.5	8.4 8.9 358 19.5	8.4 8.9 343 19.5
Control	pH 8.4 O2 ppm 8.9 Cond. 302 Temp(C) 19.5	8.4 8.9 302 19.5	8.4 8.7 295 19.5

TOXICITY TEST REPORT Sample: 02900069

TEST CONDITIONS

Company : Stelco Steel Lake Erie Works

Nanticoke, ONT
(950105)

Region : West Central

Industry : Iron and Steel

Control point : #4 Pond Discharge, (100)

Laboratory : MOE

Sampling Method : Grab

Sampled By : M. Smithson

Date Collected : 04/17/90

Received : 04/18/90 at: 1130

Tested

Type of Bioassay

: STATIC

: (Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal

: D. magna

:

Weight(gm)

Length(mm)

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	24:00	48:00		%
100	0	0	0	0	0	0		0
60	0	0	0	0	0	0		0
30	0	0	0	0	0	0		0
15	0	0	0	0	0	0		0
5	0	0	0	0	0	0		0
Control	0	0	0	0	0	0		0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 02900069

TEST CONC. %	E L A P S E D T I M E						
	00:00	01:00	02:00	04:00	24:00	48:00	

100	pH 8.2	02 ppm 9.4	Cond. 985	Temp(C) 20.0	8.1	9.3	875
					20.0		20.0
60	pH 8.0	02 ppm 9.3	Cond. 735	Temp(C) 20.0	8.0	8.3	720
					20.0		20.0
30	pH 7.9	02 ppm 9.2	Cond. 530	Temp(C) 20.0	8.0	8.3	515
					20.0		20.0
15	pH 7.8	02 ppm 9.2	Cond. 425	Temp(C) 20.0	8.0	8.3	415
					20.0		20.0
5	pH 7.8	02 ppm 9.2	Cond. 355	Temp(C) 20.0	8.0	8.4	350
					20.0		20.0
Control	pH 7.7	02 ppm 9.2	Cond. 320	Temp(C) 20.0	7.9	8.4	310
					20.0		20.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900342

TEST CONDITIONS

Company : Stelco Steel Lake Erie Works
Nanticoke, ONT
(950105)

Region : West Central
Industry : Iron and Steel

Control point : #4 Pond Discharge, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Milne
Date Collected : 05/01/90
Received : 05/01/90
Tested : 05/02/90 at: 1115

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 24:00 48:00	%
100	0 0 3	25
50	0 1 1	8
25	0 0 0	0
13	0 0 0	0
6	0 0 0	0
Control	0 0 0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900342

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.6 O2 ppm 9.0 Cond. 1218 Temp(C) 20.5	8.1 8.8 1202 20.0 19.5
50	pH 8.4 O2 ppm 9.0 Cond. 762 Temp(C) 20.5	8.2 9.1 754 20.0 19.5
25	pH 8.4 O2 ppm 9.1 Cond. 531 Temp(C) 20.5	8.3 9.0 528 20.0 19.5
13	pH 8.4 O2 ppm 9.1 Cond. 417 Temp(C) 20.5	8.3 9.0 415 20.0 19.5
6	pH 8.4 O2 ppm 9.1 Cond. 354 Temp(C) 20.5	8.3 9.0 352 20.0 19.5
Control	pH 8.4 O2 ppm 9.0 Cond. 299 Temp(C) 20.5	8.3 9.0 301 20.0 19.5

TOXICITY TEST REPORT Sample: 03900447

TEST CONDITIONS

Company : Stelco Steel Lake Erie Works
Nanticoke, ONT
(950105)
Region : West Central
Industry : Iron and Steel

Control point : #4 Pond Discharge, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Milne
Date Collected : 06/05/90
Received : 06/05/90
Tested : 06/06/90 at: 1045

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	5	12	100
50	0	1	3	25
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : 58.4 %

95% fid. limits : 46.2 - 73.8 %

Comments : Lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900447

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.7	8.2
	O2 ppm 9.1	8.7
	Cond. 1206	1228
	Temp(C) 20.5	19.5
50	pH 8.5	8.2
	O2 ppm 9.1	8.8
	Cond. 761	770
	Temp(C) 20.5	19.5
25	pH 8.4	8.2
	O2 ppm 9.1	8.8
	Cond. 525	537
	Temp(C) 20.5	19.5
13	pH 8.4	8.2
	O2 ppm 9.1	8.8
	Cond. 415	425
	Temp(C) 20.5	19.5
6	pH 8.4	8.1
	O2 ppm 9.1	8.8
	Cond. 357	356
	Temp(C) 20.5	19.5
Control	pH 8.3	8.1
	O2 ppm 9.1	8.7
	Cond. 296	300
	Temp(C) 20.5	19.5

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900549

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Stelco Steel Lake Erie Works
Nanticoke, ONT
(950105)

Region : West Central
Industry : Iron and Steel

Control point : #4 Pond Discharge, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Milne
Date Collected : 07/03/90
Received : 07/03/90
Tested : 07/04/90 at: 1010

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D	T I M E	TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	1

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

Sample Number: 03900549

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.6 O2 ppm 9.2 Cond. 995 Temp(C) 20.0	8.2 8.4 999 19.5
50	pH 8.5 O2 ppm 9.2 Cond. 655 Temp(C) 20.0	8.2 8.6 655 19.5
25	pH 8.5 O2 ppm 9.2 Cond. 482 Temp(C) 20.0	8.3 8.6 480 19.5
13	pH 8.5 O2 ppm 9.2 Cond. 395 Temp(C) 20.0	8.2 8.6 394 19.5
6	pH 8.4 O2 ppm 9.2 Cond. 339 Temp(C) 20.0	8.3 8.6 342 19.5
Control	pH 8.5 O2 ppm 9.2 Cond. 297 Temp(C) 20.0	8.2 8.6 301 19.5

TOXICITY TEST REPORT Sample: 03900650

TEST CONDITIONS

Company : Stelco Steel Lake Erie Works

Region : Nanticoke, ONT
(950105)Industry : West Central
: Iron and Steel

Control point : #4 Pond Discharge, (100)

Laboratory : BAR

Sampling Method : Grab

Sampled By : R. Kiehl

Date Collected : 08/07/90

Received : 08/07/90

Tested : 08/08/90 at: 1030

Type of Bioassay : STATIC

: (Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900650

TEST CONC.	E L A P S E D T I M E	
%	00:00	24:00 48:00

100	pH 8.6	8.2
	O2 ppm 9.0	8.6
	Cond. 739	730
	Temp(C) 20.0	21.0 20.5
50	pH 8.4	8.2
	O2 ppm 9.0	8.6
	Cond. 519	515
	Temp(C) 20.0	21.0 20.5
25	pH 8.3	8.3
	O2 ppm 9.0	8.7
	Cond. 407	405
	Temp(C) 20.0	21.0 20.5
13	pH 8.2	8.3
	O2 ppm 9.0	8.7
	Cond. 357	355
	Temp(C) 20.0	21.0 20.5
6	pH 8.2	8.4
	O2 ppm 8.9	8.7
	Cond. 323	326
	Temp(C) 20.0	21.0 20.5
Control	pH 8.2	8.3
	O2 ppm 9.0	8.8
	Cond. 301	298
	Temp(C) 20.0	21.0 20.5

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900769

TEST CONDITIONS

Company : Stelco Steel Lake Erie Works
Nanticoke, ONT
(950105)

Region : West Central
Industry : Iron and Steel

Control point : #4 Pond Discharge, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : S. Milne
Date Collected : 09/04/90
Received : 09/05/90
Tested : 09/06/90 at: 1205

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. ONE, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900769

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.2	8.2	8.2
	O2 ppm 9.0	9.0	8.6
	Cond. 749	749	733
	Temp(C) 20.5	20.5	20.0
50	pH 8.0	8.0	8.2
	O2 ppm 9.1	9.1	8.8
	Cond. 524	524	514
	Temp(C) 20.5	20.5	20.0
25	pH 8.0	8.0	8.2
	O2 ppm 9.1	9.1	8.9
	Cond. 416	416	409
	Temp(C) 20.5	20.5	20.0
13	pH 7.9	7.9	8.2
	O2 ppm 9.1	9.1	8.9
	Cond. 356	356	352
	Temp(C) 20.5	20.5	20.0
6	pH 7.9	7.9	8.2
	O2 ppm 9.1	9.1	9.0
	Cond. 328	328	322
	Temp(C) 20.5	20.5	20.0
Control	pH 7.9	7.9	8.2
	O2 ppm 9.1	9.1	9.1
	Cond. 300	300	296
	Temp(C) 20.5	20.5	20.0

TOXICITY TEST REPORT Sample: 03900899

TEST CONDITIONS

Company : Stelco Steel Lake Erie Works
Nanticoke, ONT
(950105)
Region : West Central
Industry : Iron and Steel
Control point : #4 Pond Discharge, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : R. Kiehl
Date Collected : 10/11/90
Received : 10/11/90
Tested : 10/12/90 at: 1110
Type of Bioassay : STATIC.
(Daphnia magna Acute Lethality Toxicity
Test Protocol: OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non Lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900899

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.1 O2 ppm 9.1 Cond. 656 Temp(C) 20.5	8.2 9.0 660 21.0
50	pH 8.3 O2 ppm 9.0 Cond. 483 Temp(C) 20.5	8.3 9.0 486 21.0
25	pH 8.4 O2 ppm 9.0 Cond. 397 Temp(C) 20.5	8.4 9.0 396 21.0
13	pH 8.4 O2 ppm 9.0 Cond. 358 Temp(C) 20.5	8.4 9.0 359 21.0
6	pH 8.4 O2 ppm 9.0 Cond. 330 Temp(C) 20.5	8.4 9.0 332 21.0
Control	pH 8.4 O2 ppm 9.0 Cond. 305 Temp(C) 20.5	8.4 8.7 310 21.0

